



# 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](http://www.iecex.com)

Certificate No.: IECEx BAS 15.0120X issue No.:1

Status: **Current**

Date of Issue: 2016-11-16 Page 1 of 5

Certificate history:  
Issue No. 1 (2016-11-16)  
Issue No. 0 (2015-10-19)

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

Equipment: **MTL4541S, MTL4541T, MTL4544S and MTL4544D Repeater Power Supplies, 4/20mA for 'Smart' Transmitters**  
Optional accessory:

Type of Protection: **Type of Protection 'n'**

Marking: **Ex nA IIC T4 Gc**  
(-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:

17 NOVEMBER 2016

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](http://www.iecex.com).

Certificate issued by:

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





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Great Marlings  
Butterfield  
Luton  
Bedfordshire  
LU2 8DL  
**United Kingdom**

Additional Manufacturing location(s):

**MTL Instruments PVT  
Limited**  
No 3 Old Mahabalipuram  
Road  
Sholinganallur  
Chennai  
600 119  
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** Explosive atmospheres - Part 0: General requirements  
Edition: 6.0

**IEC 60079-15 : 2010** Explosive atmospheres - Part 15: Equipment protection by type of protection "n"  
Edition: 4

*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/ExTR15.0267/00

GB/BAS/ExTR16.0241/00

##### Quality Assessment Report:

GB/BAS/QAR06.0022/06

GB/BAS/QAR07.0017/06



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## Schedule

### EQUIPMENT:

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

The MTL4544S Two Channel Repeater Power Supply, 4/20mA for Conventional or 'Smart' Transmitters is designed to provide floating d.c. supplies for energising two Conventional or 'Smart' 4/20mA Transmitters in the hazardous area and repeat these currents in either the non-hazardous area or zone 2, whilst restricting the transfer of energy from unspecified non-hazardous area or zone 2 mounted equipment to the connected transmitter by means of limitation of current and voltage. The equipment also allows bi-directional signal communication between the hazardous and non-hazardous area by connection of a hand-held communicator (HHC).

The MTL4544S Two Channel Repeater Power Supply, 4/20mA for Conventional or 'Smart' Transmitters comprises four isolating transformers that provide galvanic isolation between the hazardous and non-hazardous area circuitry, zener diode chains and resistors providing 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 plug and sockets are provided for hazardous and non-hazardous area connections. An LED is fitted to provide power on indication.

The MTL4541S Single Channel Repeater Power Supply, 4/20mA for Conventional or 'Smart' Transmitters is a depopulated version of the MTL4544S and has only one channel populated. The MTL4541T Single Channel Repeater Power Supply, 4/20mA for 2 or 3 Wire Transmitters is similar to the MTL4541S variant but is fitted with different voltage and current limitation components and therefore has different output parameters.

See Page 4 for additional information

### SPECIFIC CONDITIONS OF USE: YES as shown below:

- 1) The equipment must be installed in an area of not more than Pollution Degree 2 as defined in IEC 60664-1, and in an enclosure that provides a degree of protection of at least IP54 and meets the relevant requirements of IEC 60079-0 and IEC 60079-15.
- 2) All connections to the equipment must not be inserted or removed unless either the area in which the equipment is installed is known to be non-hazardous, or the circuit to which it is connected has been de-energised.
- 3) Any backplane used does not form part of this certificate and shall be separately certified for use in Zone 2.
- 4) The external backplane must be fitted with two retention clips type MTL 012-533 that allow the equipment to be 'clipped' to the backplane. The retention clips shall always be in place when the equipment is energised.



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## EQUIPMENT(continued):

The MTL4544D Repeater Power Supply, 4/20mA for Conventional or 'Smart' 2 or 3 Wire Transmitters with Two Outputs is designed to provide a floating d.c. supply for energising Conventional or 'Smart' 2 or 3-Wire 4/20mA Transmitter in the hazardous area and repeat the current on two channels in either the non-hazardous area or zone 2, whilst restricting the transfer of energy from unspecified non-hazardous area or zone 2 mounted equipment to the connected transmitter by means of limitation of current and voltage. The equipment also allows bi-directional signal communication between the hazardous and non-hazardous area by connection of a hand-held communicator (HHC). The equipment uses the same printed circuit board and enclosure as the MTL4544S but is populated with only one hazardous area transmitter connection and two non-hazardous area / zone 2 outputs fitted.

This certificate covers the installation of the MTL4541S, MTL4541T, MTL4544S & MTL4544D Repeater Power Supplies, 4/20mA (IECEx BAS 09.0070) in a Zone 2 location. The equipment is designed to be installed on a separately certified backplane.

See Certificate Annex for electrical parameters.



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

### Variation 1.1

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/ExTR16.0241/00

File Reference: 16/0371

**MTL4541S, MTL4541T, MTL4544S and MTL4544D Repeater Power Supplies, 4/20mA for 'Smart' Transmitters**

**Model Range:**

Model No.	
MTL4541S	Single Channel Repeater Power Supply, 4/20mA for 'Smart' Transmitters
MTL4541T	Single Channel Repeater Power Supply, 4/20mA for 2 or 3 Wire Transmitters
MTL4544S	Dual Channel Repeater Power Supply, 4/20mA for 'Smart' Transmitters
MTL4544D	Repeater Power Supply, 4/20mA for 2 or 3 Wire Transmitters with Two Outputs

**Input / Output Parameters – MTL4541S, MTL4544S & MTL4544D**

**Power Supply Input - Terminals 13 & 14**

Supply Voltage Range = 20 – 35V d.c.

**4/20mA Signal Output – Terminals 8 & 9 (Ch.1) or Terminals 11 & 12 (Ch.2 – MTL4544S and MTL4544D only)**

For 20mA nominal output, the maximum load is 450Ω

For 24mA nominal output, the maximum load is 360Ω

**Transmitter Inputs**

Terminals 1 & 2 (Ch.1) or Terminals 4 & 5 (Ch.2 – MTL4544S only)

Maximum output voltage = 28V d.c.

Terminals 1 & 3 (Ch.1) or Terminals 4 & 6 (Ch.2 – MTL4544S only)

Maximum output voltage = 1.1V d.c.

Maximum input voltage = 30V d.c.

Terminals 2 & 3 (Ch.1) or Terminals 5 & 6 (Ch.2 – MTL4544S only)

Maximum output voltage = 28V d.c.

Or

The maximum values for the intrinsically safe circuits have to be taken from IECEx Certificate No. IECEx BAS 09.0070.

**Input / Output Parameters – MTL4541T**

**Power Supply Input - Terminals 13 & 14**

Supply Voltage Range = 20 – 35V d.c.

**4/20mA Signal Output – Terminals 8 & 9**

For 20mA nominal output, the maximum load is 325Ω

For 24mA nominal output, the maximum load is 250Ω

**SGS Baseefa Limited**  
Rockhead Business Park  
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SK17 9RZ  
United Kingdom



ANNEX to IECEx BAS 15.0120X

Issue No. 0

Date: 2015/10/19

## **Transmitter Inputs**

### Terminals 1 & 2

Maximum output voltage = 22V d.c.

### Terminals 1 & 3

Maximum output voltage = 1.0V d.c.

Maximum input voltage = 30V d.c.

### Terminals 2 & 3

Maximum output voltage = 22V d.c.

Or

The maximum values for the intrinsically safe circuits have to be taken from IECEx Certificate No. IECEx BAS 09.0070.