



# IECEx Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEx BAS 14.0058X**

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Certificate history:

Status: **Current**

Issue No: 4

Issue 3 (2024-04-17)

Issue 2 (2020-07-02)

Issue 1 (2016-09-21)

Issue 0 (2014-08-28)

Date of Issue: 2024-10-28

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

Equipment: **93ZX-FB2-\*\*-\*\* Fieldbus Barrier System**

Optional accessory:

Type of Protection: **Flameproof, Increased Safety, Intrinsic Safety, Encapsulation, Protection by Enclosure**

Marking: 93ZX-FB2-\*\*-PP – GRP Models

Ex db eb ib mb [ia Ga] IIC T4 Gb (-40 °C ≤ Tamb ≤ +65 °C)  
Ex tb IIIC T80°C Db

93ZX-FB2-\*\*-SS – Stainless Steel Model

Ex db eb ib mb [ia Ga] IIC T4 Gb (-40 °C ≤ Tamb ≤ +70 °C)  
Ex tb IIIC T80°C Db

93ZX-FB2-\*\*-ST – Stainless Steel Models

Ex db eb ib mb [ia Ga] IIC T4 Gb (-20 °C ≤ Tamb ≤ +70 °C)  
Ex tb IIIC T80°C Db

Note: The equipment identifier may be followed by a three-character alpha-numeric suffix after the enclosure identifier. This three-character alpha-numeric suffix does not incorporate any detail critical to the protection concepts used.

Approved for issue on behalf of the IECEx  
Certification Body:

**P Oates**

Position:

**Certification Manager**

Signature:  
(for printed version)

Date:  
(for printed version)

28/10/2024

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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 [www.iecex.com](http://www.iecex.com) or use of this QR Code.



Certificate issued by:

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





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Butterfield  
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**United Kingdom**

Manufacturing locations: **Eaton Electric Ltd.**  
Great Marlings  
Butterfield  
Luton  
Bedfordshire  
LU2 8DL  
**United Kingdom**

**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 equipment 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 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

[IEC 60079-1:2014](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

[IEC 60079-18:2017](#) Explosive atmospheres - Part 18: Protection by encapsulation "m"  
Edition:4.1

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

[IEC 60079-7:2017](#) Explosive atmospheres - Part 7: Equipment protection by increased safety "e"  
Edition:5.1

This Certificate **does not** indicate compliance with 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 Reports:

[GB/BAS/ExTR14.0063/00](#)  
[GB/SGS/ExTR24.0020/00](#)

[GB/BAS/ExTR16.0211/00](#)  
[GB/SGS/ExTR24.0157/00](#)

[GB/BAS/ExTR20.0091/00](#)

### Quality Assessment Reports:

[GB/BAS/QAR06.0022/11](#)

[GB/BAS/QAR07.0017/11](#)



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## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The 937X-FB2-\*\*-\*\* Fieldbus Barrier System comprises a 937X-FB2-\*\*-\*\* Fieldbus Barrier Module mounted inside a GRP or in a stainless steel enclosure.

The 937X-FB2-\*\*-\*\* Fieldbus Barrier System is designed to be supplied from a power supply conforming to IEC 61158 and produce 6, 12 or 18 Spur outputs that are each compliant with the FISCO Power Supply requirements. The Spur outputs are isolated from the input supply but are not isolated from each other. Electrical connections are made via screw or spring terminals.

See certificate annex for terminal parameters

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

1. The equipment shall only be powered from supplies conforming to IEC 61158.
2. When a Trunk Surge Module is fitted, the power input circuit will not withstand a 500V a.c. isolation test to earth. This must be taken into account during installation.
3. When one or more Spur Surge Modules are fitted, the spur outputs will not withstand a 500V a.c. isolation test to earth. This must be taken into account during installation.
4. Potential electrostatic hazard. Equipment fitted with a plastic parts such as, but not limited to label(s), powder coating(s), glands and stoppers should only be cleaned with a damp cloth and installed in a manner that does not result in the charging of the surfaces due to environmental influences.
5. When the enclosure is fitted with a hinged lid fitted, it shall only be mounted in a vertical orientation on a flat surface, and care is required in the installation process and when opening the hinged lid to ensure the enclosure does not distort.
6. When the enclosure is fitted with a fully bolted lid the enclosure may be mounted in any orientation but it shall be on a flat surface and care is required in the installation process to ensure that the enclosure does not distort.
7. All cable glands and stopper plugs used for cable entries shall be suitably certified and shall have a minimum Degree of Ingress Protection of IP66.
8. When using the 93ZX-FB2-XX-ST enclosure, plastic parts not assessed to requirements of IEC/EN 60079-0 CL 7.3 Resistance to Light, the equipment shall be marked by the symbol "X" to indicate this specific condition of use according to IEC/EN 60079-0 CL 29.3 item e) i.e. not subject to direct exposure to any natural or artificial light source such as lamps or lighting.



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

### Variation 4.1

To permit the use of an alternative stainless-steel enclosure.

### Variation 4.2

Minor typographical corrections to drawings not affecting certification.

### Variation 4.3

Correction of product name on IECEx certificate to align with description and other associated certificates.

ExTR: **GB/SGS/ExTR24.0157/00**

File Reference: **24/0338**

## Annex:

[IECEx BAS 14.0058X Annex 1.pdf](#)

### **Terminal Parameters - SPUR+ve Output Terminal and Shield Terminal w.r.t Spur-ve (each channel)**

$U_o$	= 16.4V
$I_o$ peak	= 249.5mA
$I_o$ continuous	= 109mA
$P_o$	= 898mW
$U_i$	= 16.4V
$C_i$	= 0
$L_i$	= 0

The capacitance and either the inductance or inductance to resistance ratio (L/R) of the load connected to hazardous area terminals TB1 must not exceed the following values:

GROUP	CAPACITANCE $C_o$	INDUCTANCE $L_o$	OR	L/R RATIO
	( $\mu$ F)	(mH)		( $\mu$ H/ohm)
IIC	0.424	0.57		34.7
IIB	2.51	2.28		138
IIA	10.0	4.56		277

The above 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)  $\geq 1\%$  of the  $L_o$  value and
- the total  $C_i$  of the external circuit (excluding the cable)  $\geq 1\%$  of the  $C_o$  value.

Note: the reduced capacitance of the external circuit (including cable) shall not be greater than 1 $\mu$ F for Groups IIA & IIB, and 600nF 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  $C_i$  plus cable capacitances respectively.