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

Certificate No.:	**IECEx BAS 17.0112X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 2	Issue 1 (2019-12-09) Issue 0 (2017-11-15)
Date of Issue:	2024-04-17		

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

Equipment: **93ZX-FB2-XX-XX-XXXX Fieldbus Barrier System**

Optional accessory:

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

Marking: **Ex db eb ib mb [ia Ga] IIC T4 Gb (Ta = -40°C to +65°C)**
Ex tb IIIC T80°C Db

Approved for issue on behalf of the IECEx Certification Body: **D Brearley**

Position: **Certification Consultant**

Signature: (for printed version)

Date: (for printed version) 17/4/2024

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Certificate issued by:

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

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Manufacturer:
Eaton Electric Ltd.
Great Marlings
Butterfield
Luton
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LU2 8DL
United Kingdom

Manufacturing locations:

Eaton Electric Ltd.
Great Marlings
Butterfield
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LU2 8DL
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MTL Instruments PVT Limited
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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 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-1:2014 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-11:2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-18:2017 Edition:4.1	Explosive atmospheres - Part 18: Protection by encapsulation "m"
IEC 60079-31:2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7:2017 Edition:5.1	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

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/ExTR17.0265/00 GB/BAS/ExTR19.0310/00 GB/SGS/ExTR24.0021/00

Quality Assessment Reports:

GB/BAS/QAR06.0022/11 GB/BAS/QAR07.0017/10

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

The 93ZX-FB2-XX-XX-XXXX Fieldbus Barrier System comprises one (where ZX-87) or two (where ZX-88) 937X-FB2-**-** Fieldbus Barrier Module(s) mounted inside a stainless steel enclosure.

The 93ZX-FB2-XX-XX-XXXX Fieldbus Barrier System is designed to be supplied from a power supply conforming to IEC 61158 and produce 12 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 the 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 label should only be cleaned with a damp cloth.

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.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Variation 2.1

To permit updates to the referenced standards.

ExTR: **GB/SGS/ExTR24.0021/00**	File Reference: **16/0371**

Annex:

IECEx BAS 17.0112X Annex 1.pdf

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

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
	(µF)	(mH)		(µH/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 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) ≥1% of the L_o value and
- the total C_i of the external circuit (excluding the cable) ≥1% of the C_o value.

Note: the reduced capacitance of the external circuit (including cable) shall not be greater than 1µF 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.