



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

Ex COMPONENT CERTIFICATE

Certificate No.:	IECEX BAS 14.0057U	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 4	Issue 3 (2020-07-02)
Date of Issue:	2024-04-17		Issue 2 (2017-11-15)
			Issue 1 (2016-09-21)
			Issue 0 (2014-08-28)
Applicant:	Eaton Electric Limited Great Marlings Butterfield Luton Bedfordshire LU2 8DL United Kingdom		
Ex Component:	3GFB-FB2 Fieldbus Barrier Module		
<i>This component is NOT intended to be used alone and requires additional consideration when incorporated into other equipment or systems for use in explosive atmospheres (refer to IEC 60079-0).</i>			
Type of Protection:	Flameproof, Increased Safety, Intrinsic Safety, Encapsulation, Protection by Enclosure		
Marking:	Ex db eb ib mb [ia Ga] IIC Gb (Ta=-40°C to +75°C)		

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

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

Manufacturing locations: **Eaton Electric Limited**
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 component 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 60079-7:2017](#) 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 component listed has successfully met the examination and test requirements as recorded in:

Test Reports:

[GB/BAS/ExTR14.0063/00](#)
[GB/BAS/ExTR20.0091/00](#)

[GB/BAS/ExTR16.0211/00](#)
[GB/SGS/ExTR24.0020/00](#)

[GB/BAS/ExTR17.0265/00](#)

Quality Assessment Reports:

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

[GB/BAS/QAR07.0017/10](#)



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Ex Component(s) covered by this certificate is described below:

The 937X-FB2-**-** Fieldbus Barrier Module comprises a Trunk Terminator Assembly, a 6 way or 12 way carrier assembly, one or two Barrier Modules, optionally a component certified Trunk Surge Module (part ref. 9376-SP), optionally a component certified F93-XE Fieldbus Terminator (part ref. F93-XE) and optionally up to twelve Spur Surge Modules (part ref. FS32).

The 6 simplex way carrier assembly is normally associated with a single Barrier Module and the 12 way simplex carrier is normally associated with two Barrier Modules.

The 937X-FB2-**-** Fieldbus Barrier Module is designed to be supplied from a power supply conforming to IEC 61158 and produce 6 or 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 terminals.

This component contains a component certified connector covered by IECEx TUN 09.0014U Issue 2.

See certificate Annex for the Terminal Parameters and Schedule of Limitations.

SCHEDULE OF LIMITATIONS:

1. The component 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. The component must be mounted in an appropriately certified enclosure when used in hazardous areas. When used in safe areas, the enclosure must provide ingress protection of at least IP20.
5. The Component is intended to meet the requirements for temperature class T4 when used within its certified temperature range.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Variation 4.1

To permit an update to the referenced standards and the addition of an updated live demateable connector component certificate.

ExTR: **GB/SGS/ExTR24.0020/00**

File Reference: **16/0371**

Annex:

[IECEX BAS 14.0057U Annex issue 2.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
	(μ F)	(mH)		(μ H/ohm)
IIC	0.424	0.57		34.7
IIB	2.51	2.28		138
IIA	10.0	4.56		277

The above load parameters apply where:

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 μ 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.