



# 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)

### Ex COMPONENT CERTIFICATE

Certificate No.: **IECEx BAS 15.0099U**

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Certificate history:

Status: **Current**

Issue No: 1

Issue 0 (2015-09-29)

Date of Issue: 2024-04-17

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

Ex Component: 93ZX-FB2 Module

*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).*

Type of Protection: **Flameproof, Increased Safety, Encapsulation, Intrinsic Safety, Dust protection by enclosure**

Marking: **Ex db eb ib mb [ia Ga] IIC Gb (-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)

22/4/2024

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](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 Limited**  
Great Marlings  
Butterfield  
Luton  
Bedfordshire  
LU2 8DL  
**United Kingdom**

**MTL Instruments Pvt Limited**  
No 3 Old Mahabalipuram Road  
Sholinganallur  
Chennai 600119  
**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 60079-0:2011](#) Explosive atmospheres - Part 0: General requirements  
Edition:6.0

[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/ExTR15.0226/00](#)

[GB/BAS/ExTR16.0286/00](#)

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 93ZX-FB2 Fieldbus Barrier Module comprises a 12 way carrier assembly, four Barrier Modules, optionally a component certified Trunk Surge Module (part ref. 9376~SP), optionally a component certified F93XE Fieldbus Terminator (part ref. F93-XE) and optionally up to twelve Spur Surge Modules (part ref. FS32).

The 93ZX-FB2 Fieldbus Barrier Module is designed to have two Barrier Modules in use at any one time, with two more Barrier Modules standing by in case of a failure of an energised module. Should a Barrier Module fail, due to the use of Ex d e live-demateable connectors, a Barrier Module may be replaced without having to power down the apparatus.

The 93ZX-FB2 Fieldbus Barrier Module is designed to be supplied from a power supply conforming to IEC 61158 and produces 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.

See annex for Terminal Parameters

## 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 1.1

To permit a change of company name, an update to the referenced standards and the addition of an updated live demateable connector component certificate.

ExTR: **GB/BAS/ExTR16.0286/00**

File Reference: **16/0371**

### Annex:

[IECEx BAS 15.0099U annex issue 1\\_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	= 246mA
$I_o$ continuous	= 215mA
$P_o$	= 912mW
$U_i$	= 17.5V
$C_i$	= 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	INDUCTANCE	OR	L/R RATIO
	( $\mu$ F)	(mH)		( $\mu$ H/ohm)
IIC	0.339	0.57		34.7
IIB	2.51	2.28		138
IIA	10.0	4.56		277

The above load parameters apply where:

1. The external circuit contains no combined lumped inductance  $L_i$  and capacitance  $C_i$  greater than 1% of the above values.
- or 2. The inductance and capacitance are distributed as in a cable.
- or 3. The external circuit contains either only lumped inductance or lumped capacitance in combination with a cable.

In all other situations e.g. the external circuit contains combined lumped inductance and lumped capacitance, up to 50% of each of the L and C values is allowed.