1 # EU - TYPE EXAMINATION CERTIFICATE

2 **Component Intended for use on/in an Equipment or Protective System**
Intended for use in Potentially Explosive Atmospheres
Directive 2014/34/EU

3 EU - Type Examination Certificate Number: **Baseefa14ATEX0111U – Issue 4**

3.1 In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary Certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016.

4 Product: **937X-FB2-**-**-** Fieldbus Barrier Module**

5 Manufacturer: **Eaton Electric Limited**

6 Address: **Great Marlings, Butterfield, Luton, Bedfordshire, LU2 8DL United Kingdom**

7 This re-issued certificate extends EC Type Examination Certificate No. Baseefa14ATEX0111U to apply to product designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

8 SGS Fimko Oy, Notified Body number 0598, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that the product, as modified by this supplementary certificate, has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

8.1 The original certificate was issued by SGS Baseefa Ltd (UK Notified Body 1180). It, and any supplements previously issued by SGS Baseefa Ltd have been transferred to the supervision of SGS Fimko Oy (EU Notified Body 0598). The original certificate number is retained.

The examination and test results are recorded in confidential Report No. **See Certificate History**

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 EN 60079-1:2014 EN IEC 60079-7:2015+A1:2018 EN 60079-11:2012 EN 60079-18:2015+A1:2017

except in respect of those requirements listed at item 18 of the Schedule.

10 The sign "U" is placed after the certificate number. It indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.

11 This EU - TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

Ex II 2(1)G Ex db eb ib mb [ia Ga] IIC Gb (-40°C ≤ T_a ≤ +75°C)

SGS Baseefa Customer Reference No. **0703** Project File No. **16/0371**

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13 **Schedule**

14 **Certificate Number Baseefa14ATEX0111U – Issue 4**

15 Description of Product

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.

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 load parameters apply where:

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.

16 Report Number

See Certificate History

17 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.

18 Essential Health and Safety Requirements

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
1.4.1	External effects
1.4.2	Aggressive substances, etc.

19 Drawings and Documents

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
CI9373FB2-4 *1	1	4	7.23	FB2 Carrier Cert Label
CI9377-9 *1	1	6	7.23	FB Barrier Case Marking
CI9384-1	2	2	1.24	TTA Wiring Diagram
CI9384-4	4 & 5	4	1.24	TTA Assembly

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
CI255-TFR *1	1 & 2	1	01.10	3GFB Comms 3 Coil Co-Ax Trnfmr
CI9377-1 *1	1 to 6	2	5.11	3rd Generation Fieldbus Barrier Spur Control
CI9377-2 *1	1 to 3	3	15/11/11	R-Barrier Spur Control Parts List
CI9377-3 *1	1	2	9.11	Barrier Spur Control PCB Track Layout
CI9377-4 *1	1 to 3	3	5.11	Barrier Spur Control PCB Assy
CI9377-5 *1	1	4	2.14	3rd Generation Fieldbus Barrier PSU
CI9377-6 *1	1 to 3	5	13.2.12	3GFB Barrier PSU PCB Parts List
CI9377-7 *1	1	3	31.3.14	Barrier PSU PCB Track Layout
CI9377-8 *1	1 & 2	2	4.10	Barrier PSU PCB Assy
CI937X-FB2-XX *1	1	1	8.6.16	3GFB "FB2" Component Final Assembly
CI9381 FB2 6S-1 *1	1 & 2	2	7.16	Certification Drawing for Carrier 6W Simplex
CI9381 FB2 6S-2 *1	1	2	7.16	Parts List For Carrier, TTA, 6 Way Simplex
CI9381 FB2 6S-3 *1	1	2	7.16	Carrier, TTA 6W Simplex Track Layout
CI9381 FB2 6S-4 *1	1	3	11.17	Carrier-TTA 6W Simplex PCB Comp Layout
CI9383 FB2 12S-1 *1	1 & 2	2	7.16	Certification Drawing for Carrier 12W Simplex
CI9383 FB2 12S-2 *1	1	2	7.16	Parts List For Carrier, TTA, 12 Way Simplex

Number	Sheet	Issue	Date	Description
CI9383 FB2 12S-3 *1	1 & 2	2	6.16	Carrier, TTA 12W Simplex Track Layout
CI9383 FB2 12S-4 *1	1 & 2	3	11.17	Carrier-TTA 12W Simplex PCB Comp Layout

Note *1 - These drawings are held with IECEx BAS14.0057U.

20 Certificate History

Certificate No.	Date	Comments
Baseefa14ATEX0111U	28 August 2014	The release of the prime certificate. The associated test and assessment against the requirements of EN 60079-0:2012 EN 60079-1:2007 EN 60079-7:2007 EN 60079-11:2012 EN 60079-18:2009 is documented in Test Report No. GB/BAS/ExTR14.0063/00 for project 14/0063.
Baseefa14ATEX0111U Issue 1	15 November 2017	This issue of the certificate incorporates previously issued primary & supplementary certificates into one certificate, and permits the introduction of a new carrier board, permits drawing changes associated with the delisting of component parts on the 937X-FB2-**-** Fieldbus Barrier Module equipment certificate. The associated test and assessment is documented in GB/BAS/ExTR14.0063/00 for project 14/0063.
Baseefa14ATEX0111U Issue 2	15 November 2017	This issue of the certificate permits the use of alternative Trunk terminals, and after accepting an Attestation of Conformity by the holder of the component certificate TUV09ATEX555354U, claims compliance with EN 60079-0:2012, EN 60079-1:2014 and EN 60079-7:2015. The associated test and assessment is documented in GB/BAS/ExTR17.0265/00 for project 17/0644.
Baseefa14ATEX0111U Issue 3	2 July 2020	This issue of the certificate confirms compliance with EN 60079-18:2015. The associated test and assessment is documented in GB/BAS/ExTR20.0091/00 for project 20/0278.
Baseefa14ATEX0111U Issue 4	17 April 2024	This issue of the certificate permits a standards update to EN IEC 60079-0:2018, EN IEC 60079-7:2015+A1:2018 and EN 60079-18:2015+A1:2017 and the use of a different live-dematerable component certificate. See GB/SGS/ExTR24.0020/00 for project 16/0371
For drawings applicable to each issue, see original of that issue.		