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: **Baseefa09ATEX0184U – Issue 5**

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-FB-**-** 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. Baseefa09ATEX0184U 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. S**ee 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:

Ⓔx II 2(1)G Ex db eb ib mb [ia Ga] IIC T4 Gb (-40°C to +75°C)

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

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13 # Schedule

14 ## Certificate Number Baseefa09ATEX0184U – Issue 5

15 Description of Product

The 937X-FB-**-** 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 Trunk Terminator (part ref. 9378-FT) 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 and 6 way redundant carries are normally associated with two Barrier Modules.

4 way simplex and 8 way simplex variants also exist.

The 937X-FB-**-** 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)

9371 & 9373 Units - Simplex Models

U_o	= 17.5V
$I_{o\ peak}$	= 249.5mA
$I_{o\ continuous}$	= 113mA
P_o	= 982mW
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
	(µF)	(mH)		(µH/ohm)
IIC	0.339	0.57		32.5
IIB	1.97	2.28		130
IIA	8.2	4.57		260

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. The reduced capacitance, when applicable, shall not exceed 1µF for Groups IIA & IIB, or 600nF for 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.

9372 - Redundant Models

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
	(µF)	(mH)		(µH/ohm)
IIC	0.424	0.59		35.2
IIB	2.51	2.35		140
IIA	10.0	4.70		281

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.

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
CI9373-1	1 to 3	8	7.23	3GFB Stainless Steel Final Assembly
CI9377-9 *1	1	6	7.23	FB Barrier Case Markings
CI9377-10	1	3	2.24	FB Carrier Cert Label
CI9384-1	1	2	1.24	TTA Wiring Diagram
CI9384-4	1 to 3	4	1.24	TTA Assembly

Note *1 - Drawing is held with IECEx BAS 09.0081U.
Other drawings are held with IECEx BAS 09.0081U and associated with IECEx BAS 09.0082X and Baseefa09ATEX0185X.

Current drawings also associated with this certificate.

Number	Sheet	Issue	Date	Description
CI255TFR	1 & 2	1	01.10	3GFB Comms 3 Coil Co-Ax Trnfmr
CI9373-2	1 to 3	4	1.12	3GFB GRP Enclosure Final Assembly
CI9377-1	1 to 6	2	5.11	3rd Generation Fieldbus Barrier Spur Control
CI9377-2	1 to 3	3	15/11/11	R-Barrier Spur Control Parts List
CI9377-3	1	2	9.11	Barrier Spur Control PCB Track Layout
CI9377-4	1 to 3	3	5.11	Barrier Spur Control PCB Assy
CI9377-5	1 to 3	2	2.12	3rd Generation Fieldbus Barrier PSU
CI9377-6	1 to 3	3	13/02/12	3GFB Barrier PCB Parts List
CI9377-7	1	2	27.4.10	Barrier PSU PCB Track Layout
CI9377-8	1 & 2	2	4.10	Barrier PSU PCB Assy
CI9381-1	1	2	3.11	Certification Drawing for Carrier 6W Simplex.
CI9381-2	1	2	10.11	Parts List for Carrier 6W Simplex
CI9381-3	1	3	3.11	Carrier 6W Simplex PCB Track Layout
CI9381-4	1	3	3.11	Carrier 6W Simplex PCB Component Layout
CI9382-1	1	3	11.11	Carrier 6W Redundant Final Assy.
CI9382-2	1	2	11.11	Parts List for Carrier 6Way Redundant
CI9382-3	1 & 2	2	11.11	Carrier 6 Spur Redundant PCB Track Layout
CI9382-4	1 & 2	2	11.11	Carrier 6-SP Red'nt PCB Component Layout
CI9383-1	1	2	3.11	Certification Drawing for Carrier 12W Simplex.
CI9383-2	1	2	10.11	Parts List for Carrier 6+6 Simplex
CI9383-3	1	3	3.11	Carrier 12W Simplex PCB Track Layout
CI9383-4	1 & 2	3	3.11	Carrier 12W Simplex PCB Component Layout
CI9385-1/1	1	1	4.10	Certification Drawing For Carrier 4W Simplex
CI9385-2	1	1	4.10	Parts List For Carrier 4W
CI9385-3	1	1	4.10	Carrier 4W PCB Track Layout
CI9385-4	1	1	4.10	Carrier 4W PCB Component Layout
CI9386-1/1	1	1	4.10	Certification Drawing For Carrier 8W Simplex
CI9386-2	1	1	4.10	Parts List For Carrier 8W
CI9386-3	1	1	4.10	Carrier 8W PCB Track Layout
CI9386-4	1 & 2	1	4.10	Carrier 8W PCB Component Layout

These drawings are held with IECEx BAS 09.0081U, and are associated with IECEx BAS 09.0085X, Baseefa09ATEX0184U & Baseefa09ATEX0185X.

20 Certificate History

Certificate No.	Date	Comments
Baseefa09ATEX0184U	9 April 2010	The release of prime certificate. The associated test and assessment is documented in Test Report No. GB/BAS/ExTR09.0114/00 & GB/BAS/ExTR09.0015/00.
Baseefa09ATEX0184U/1	9 July 2010	To permit the introduction of 4 way and 6 way variants. See GB/BAS/ExTR10.0105/00 for project 10/0335.
Baseefa09ATEX0184U Issue 2	29 February 2012	To permit the introduction of the 9372 range of units, to permit electrical and mechanical changes including the introduction of revised terminal parameters, and to confirm that the current design has been assessed for compliance with the requirements of EN 60079-18:2009 edition 3 and EN 60079-27:2008 edition 2 including the revision of the component marking in accordance with these standards. See GB/BAS/ExTR10.0275/00 for project 10/0618
Baseefa09ATEX0184U Issue 3	21 June 2013	To permit drawing changes relating to the 3GFB Equipment certificates that do not affect the existing assessment of the 3GFB component. The associated test and assessment is documented in Test Report GB/BAS/ExTR10.0275/00 for project 13/0091
Baseefa09ATEX0184U Issue 4	22 March 2016	To permit drawing changes relating to the 3GFB Equipment certificates that do not affect the existing assessment of the 3GFB component. The associated test and assessment is documented in Test Report GB/BAS/ExTR16.0089/00 for project 16/0212.
Baseefa09ATEX0184U Issue 5	16 April 2024	This issue: - permits a change of company name. - confirms the current design has been reviewed against the requirements of EN IEC 60079-0:2018, EN 60079-1: 2014, EN IEC 60079-7: 2015+A1:2018, EN 60079-11: 2012, and EN 60079-18:2015+A1:2017 in respect of the differences from EN 60079-0: 2009, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-11: 2007, EN 60079-18:2009, EN 60079-27: 2008. - permits the use of a different live dematerable connector component certificate. See GB/BAS/ExTR16.0309/00 for project 16/0371.
For drawings applicable to each issue, see original of that issue.		