



## 13 Schedule

### 14 Certificate Number Baseefa09ATEX0185X – Issue 6

#### 15 Description of Product

The 937X-FB-\*\*-\*\* Fieldbus Barrier System 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) that are all housed inside an appropriately certified stainless steel or GRP dust tight enclosure.

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

The 937X-FB-\*\*-\*\* Fieldbus Barrier System 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.

Stainless Steel enclosure variants have a certification temperature range of -40°C to +70°C.

GRP enclosure variants have a certification temperature range of -40°C to +65°C.

Models marked 9372-FB-SS-004 are suitable for EPL [Ga] Gb only.

#### 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
	( $\mu$ F)	(mH)		( $\mu$ H/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 1 $\mu$ F 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
	( $\mu$ F)	(mH)		( $\mu$ H/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 Specific Conditions of Use

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. The equipment should only be cleaned with a damp cloth.

## 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
CI9373-3 *1	1 to 3	8	7.23	937X Encl Cert Label
CI9384-1	1	2	1.24	TTA Wiring Diagram
CI9384-4	1 to 3	4	7.23	TTA Assembly

Note \*1 - This drawing is held with IECEx BAS 09.0082X.

Other drawings are held with IECEx BAS 09.0081U and associated with IECEx BAS 09.0082X and Baseefa09ATEX0184U.

Current drawings which remain unaffected by this issue:

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	3 <sup>rd</sup> 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	3	2.12	3 <sup>rd</sup> 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 issue 5 and are associated with IECEx BAS 09.0082X and Baseefa09ATEX0184U.

**20 Certificate History**

<b>Certificate No.</b>	<b>Date</b>	<b>Comments</b>
Baseefa09ATEX0185X	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/ExTR09.0115/00 for project 08/0459.
Baseefa09ATEX0185X/1	9 July 2010	To permit the addition of a GRP enclosure. The associated test and assessment is documented in Test Report No. GB/BAS/ExTR10.0105/00 for project 10/0335.
Baseefa09ATEX0185X/2	17 October 2011	To permit changes to the permitted gland sizes. The associated test and assessment is documented in Test Report No. 11(C)0596.
Baseefa09ATEX0185X issue 3	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. The associated test and assessment is documented in Test Report GB/BAS/ExTR10.0275/00 for project 10/0618.
Baseefa09ATEX0185X Issue 4	21 June 2013	To permit the use of alternative enclosures. The associated test and assessment is documented in Test Report GB/BAS/ExTR13.0110/00 for project 13/0091.
Baseefa09ATEX0185X Issue 5	22 March 2016	To permit the use of a painted enclosure for gas only models and to permit the use of a stainless steel label. The associated test and assessment is documented in Test Report GB/BAS/ExTR16.0089/00 for project 16/0212.
Baseefa09ATEX0185X Issue 6	16 April 2024	<p>This issue:-</p> <ul style="list-style-type: none"> <li>- permits a change of company name,</li> <li>- 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, and EN 60079-31: 2009,</li> <li>- permits the use of alternate enclosures,</li> <li>- permits the use of a different live-demateable connector component certificate.</li> </ul> <p>See GB/BAS/ExTR16.0309/00 for project 16/0371.</p>
For drawings applicable to each issue, see original of that issue.		