1 # EU - TYPE EXAMINATION CERTIFICATE

2 **Safety Device, Controlling Device or Regulating Device intended for use outside a potentially explosive atmosphere but required for or contributing to the safe functioning of Equipment and Protective Systems with respect to the risks of explosion**
Directive 2014/34/EU

3 EU - Type Examination Certificate Number: **Baseefa09ATEX0127 – Issue 2**

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: **910* 4 Segment Redundant FISCO Power Supply Units**

5 Manufacturer: **Eaton Electric Limited**

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

7 This re-issued certificate extends EC Type Examination Certificate No. Baseefa09ATEX0127 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 Baseefa, Notified Body number 1180, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product 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.

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 60079-0: 2012 + A11: 2013 EN 60079-11: 2012

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

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Specific Conditions of Use specified in the schedule to this certificate.

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) GD (See Clause 15 of Schedule for Equipment Coding)

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

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R S SINCLAIR
TECHNICAL MANAGER
On behalf of SGS Baseefa Limited

13 **Schedule**

14 **Certificate Number Baseefa09ATEX0127 Issue 2**

15 **Description of Product**

The 910* 4 Segment Redundant FISCO Power Supply Units provides up to four separate intrinsically safe FISCO power supplies with full redundancy to power equipment located in the hazardous area. The '*' in the model number can be replaced with a '1', '7', '8' or '9' which denotes the model specific carrier upon which the circuitry is mounted.

There are two main versions of the equipment, the 910*-21-P* 4 Segment Redundant FISCO Power Supply which are assessed for Gas Group IIC and the 910*-22-P* 4 Segment Redundant FISCO Power Supply which are assessed for Gas Group IIB.

Each segment of the 910* 4 Segment Redundant FISCO Power Supply Unit comprises either two 9121-IS-CM FISCO Power Supply – IIC (910*-21-P* models) or 9122-IS-CM FISCO Power Supply –IIB (910*-22-P* models) and two 9129-IS FISCO Supply Arbitration Module mounted on a model specific carrier. Under normal operation one of the two FISCO Power Supply via the inter-connected 9129-IS supplies the segment's supply output. Upon failure of the power supply or its associated 9129-IS, the interconnected 9129-IS controls the switch over to the other FISCO Power Supply and the segment supply output is maintained.

The 9121-IS-CM FISCO Power Supply – IIC & 9122-IS-CM FISCO Power Supply – IIB fitted to the equipment are already certified under ATEX Certificate No's. BAS02ATEX7276 and BAS02ATEX7277 respectively.

The 9129-IS FISCO Supply Arbitration Module comprises electronic components mounted on a single printed circuit board in a plastic enclosure. The module is powered from the 9121-IS-CM / 9122-IS-CM FISCO Power Supply it is connected to and also has interconnections with the other 9129-IS fitted in the segment to enable the switch over of the supplies. The 9129-IS also connects to the alarm system via a galvanically isolated interface to provide indication of a fault on the segment. A push button is fitted to the 9129-IS to enable the user to manually force the switch over of the segment supply to the other power supply. All connections to and from the 9129-IS are via a polarised connector at the bottom of the enclosure that connects to the Carrier. LED indication is provided on top of the module to indicate whether the 9129-IS and the interconnected FISCO Power Supply are currently supplying the segment or is in standby mode.

The circuitry fitted in each segment is powered via the model specific carrier. As well as providing the interconnections between the two 9129-IS modules and the two power supplies in each of the four segments, the carrier also provides connections to a Host Control System and has an alarm output for indication of a fault on any of the four segments. External connections to the carrier are made via polarised plug and socket connections. The power supply, alarm and each segment's fieldbus supply output are made via plug and socket connection with either screw terminals (9101-CA-PS, 9107-CA-PS, 9108-CA-PS or 9109-CA-PS Carriers) or clamp arrangements (9108-CA-PC Carrier only) The last character of the model number (marked *) defines the connection type, 'S' for Screw terminals and 'C' for clamp terminals.

When any of the four segments of the apparatus are not used, to enable correct functionality of the alarm output signal, a 9127-BLK FISCO Alarm Blanking Module is fitted in place of each 9129-IS in that segment. The 9127-BLK FISCO Alarm Blanking Module comprises circuitry to bypass the alarm circuitry and is housed in a plastic enclosure with the same type of connector fitted at the bottom of the enclosure as the 9129-IS.

In terms of intrinsic safety, the 9101, 9107, 9108 & 9109 variants of the equipment are identical with the only differences between then being the configuration of the non-hazardous area connection facilities.

The following models are covered by the certificate: -

9101-21-PS 4 Segment Redundant FISCO Power Supply – IIC 9107-21-PS 4 Segment Redundant FISCO Power Supply – IIC 9108-21-PC 4 Segment Redundant FISCO Power Supply – IIC 9108-21-PS 4 Segment Redundant FISCO Power Supply – IIC 9109-21-PS 4 Segment Redundant FISCO Power Supply – IIC	Ⓔx II (2) GD	[Ex ib Gb] IIC (-20°C ≤ T_a ≤ +60°C) [Ex ib Db] IIIC (-20°C ≤ T_a ≤ +60°C)

9101-22-PS 4 Segment Redundant FISCO Power Supply – IIB 9107-22-PS 4 Segment Redundant FISCO Power Supply - IIB 9108-22-PC 4 Segment Redundant FISCO Power Supply – IIB 9108-22-PS 4 Segment Redundant FISCO Power Supply – IIB 9109-22-PS 4 Segment Redundant FISCO Power Supply – IIB	Ex II (2) GD	[Ex ib Gb] IIB (-20°C ≤ T_a ≤ +60°C) [Ex ib Db] IIIC (-20°C ≤ T_a ≤ +60°C)

Input / Output Parameters

Input Power Supply Terminals: POWER A Pins '+' & '-' and POWER B Pins '+' & '-'

U_m = 253V

The circuits connected to the POWER A & POWER B terminals are designed to operate from a d.c. supply voltage of up to 30V.

Host Output Connector: HOST H1 pins 1 to 25 (9101-2*-PS models) or HOST 1A, HOST 1B, HOST 2A, HOST 2B, HOST 3A, HOST 3B, HOST 4A and HOST 4B (9107-2*-PS & 9109-2*-PS models) or HOST 1A Pins 1 to 20 and HOST 1B Pins 1 to 20 (9108-2*-P* models only)

U_m = 253V

The circuit connected to the Host Output connections are designed to operate from a d.c. supply voltage of up to 32V.

Alarm Output Terminals: ALARM Pins '+' & '-'

U_m = 253V

Fieldbus Supply Outputs: SEGMENT1, SEGMENT2, SEGMENT3 or SEGMENT4 Pins '+' w.r.t. '-' (9101-21-PS, 9107-21-PS, 9108-21-P* & 9109-21-PS IIC models)

U_o = 14V C_o = 0.20μF
I_o = 180mA @ 14V L_o = 300μH
P_o = 2.52W

Fieldbus Supply Outputs: SEGMENT1, SEGMENT2, SEGMENT3 or SEGMENT4 Pins '+' w.r.t. '-' (9101-22-PS, 9107-22-PS, 9108-22-P* & 9109-22-PS IIB models)

U_o = 14.8V C_o = 0.50μF
I_o = 359mA @ 14.8V L_o = 550μH
P_o = 5.31W

Each Fieldbus Supply Output must be considered as a separate intrinsically safe circuit.

16 Report Number

GB/BAS/ExTR16.0306/00

17 Specific Conditions of Use

None

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	Compliance
1.2.7	LVD type requirements	Manufacturer responsibility
1.2.8	Overloading of equipment (protection relays, etc.)	User/Installer responsibility

Clause	Subject	Compliance
1.4.1	External effects	User/Installer responsibility
1.4.2	Aggressive substances, etc.	User/Installer responsibility

19 Drawings and Documents

New drawings submitted for this issue of certificate:

Number	Sheet	Issue	Date	Description
CI9108-5	1 of 1	4	8.16	9108-22-PX Certification Label
CI9127-5	1 of 1	2	8.16	9127-BLK Certification Label
CI9129-5	1 of 1	2	8.16	9129-IS Certification Label

The above drawings are associated and held with IECEx Certificate No. IECEx BAS 09.0055 Iss. 2

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
CI9108-CA-PS-1	1 of 1	1	4.09	RDF Carrier Assembly
CI9108-2	1 of 1	1	4.09	9108-CA-PX Track Layout
CI9108-3	1 & 2	1	4.09	9108-CA-PX Carrier PCB Assy
CI9108-4	1 & 2	1	5.09	9108-CA-PX Carrier Assy
CI9108-6	1 of 1	1	4.09	Connector IP Cover
CI9127-1	1 of 1	1	4.09	Certification Drawing for 9127-BLK-Board
CI9127-2	1 of 1	1	4.09	9127-BLK Track Layout
CI9127-3	1 of 1	1	4.09	9127-BLK PCB Assembly
CI9127-4	1 & 2	1	4.09	9127-BLK Final Assembly
CI9129-1/1	1 to 15	1	4.09	9129-IS Certification Drawing
CI9129-2	1 to 4	1	5.09	9129-IS Parts List
CI9129-3	1 & 2	1	4.09	9129-IS Track Layout
CI9129-4	1 & 2	1	4.09	9129-IS PCB Assembly
CI9129-6	1 & 2	1	5.09	9129-IS Final Assembly
CI9101-1	1 of 1	1	7.10	9101 Adapter Assembly
CI9101-2	1 of 1	1	7.10	9101 Adapter PCB Track Layout
CI9101-3	1 of 1	1	7.10	9101 Adapter PCB Component Layout
CI9101-4	1 & 2	1	7.10	9101-CA-PS Carrier Assembly
CI9107-1	1 of 1	1	7.10	9107 / 9109 Adapter Assembly
CI9107-2	1 of 1	1	7.10	9107/9109 Adapter PCB Track Layout
CI9107-3	1 of 1	1	7.10	9107/9109 Adapter PCB Component Layout
CI9107-4	1 & 2	1	7.10	9107-CA-PS / 9109-CA-PS Carrier Assembly
CI9107-11	1 of 1	1	7.10	9001-53 Redundant FISCO Generic Carrier Assembly
CI9107-12	1 of 1	1	7.10	9001-53 Redundant FISCO Generic Carrier Track Layout
CI9107-13	1 & 2	1	7.10	9001-53 Redundant FISCO Generic Carrier Component Layout

The above drawings are associated and held with IECEx Certificate No. IECEx BAS 09.0055

20 Certificate History

Certificate No.	Date	Comments
Baseefa09ATEX0127	26 June 2009	The release of the prime certificate. The associated test and assessment against the requirements of EN 60079-0: 2006, EN 60079-11: 2007, EN 60079-27: 2006 and EN 61241-11: 2006 is documented in Certification Report No's. GB/BAS/ExTR09.0078/00 and GB/BAS/ExTR09.0079/00.
Baseefa09ATEX0127/1	12 August 2010	To confirm the current designs of the 9108 4 Segment Redundant FISCO Power Supply have been reviewed against the requirements of EN 60079-0: 2009 in respect of the differences from EN 60079-0: 2006 and, with exception of the marking, none of the differences affect the equipment. In accordance with the requirements of EN 60079-0: 2009 the markings of all models of the equipment were revised to include the Equipment Protection Level (EPL) markings. The supplementary certificate also permitted the alternative fitting of the 9108 circuitry onto alternative carrier arrangement to for the 9101, 9107 & 9109 4 Segment Redundant FISCO Power Supply variants. The associated test and assessment is documented in Certification Report No. GB/BAS/ExTR10.0027/00.
Baseefa09ATEX0127 Issue 2	25 October 2016	This issue of the certificate incorporates previously issued primary & supplementary certificates into one certificate and confirms the current design meets the requirements of EN 60079-0: 2012 + A11: 2013 and EN 60079-11: 2012. The equipment name was also updated. This issue of the certificate also permits the manufacturer's name to be changed on page 1 of the certificate and on the equipment marking. The associated test and assessment is documented in Certification Report No. GB/BAS/ExTR16.0306/00.
For drawings applicable to each issue, see original of that issue.		