

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 **BAS02ATEX7277X – Issue 7**
Number:

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: **9122-IS FISCO Power Supply – IIB**

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. BAS02ATEX7277 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 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.

8.1 The original certificate was issued by The Electrical Equipment Certification Service (UK Notified Body 0600). It, and any supplements previously issued by SGS Baseefa Ltd (UK Notified Body 1180) 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 60079-11:2012

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:

 See Certificate Schedule for Equipment Marking

SGS Fimko Oy Customer Reference No. **0703**

Project File No. **19/0479**

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R S SINCLAIR
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Schedule

14

Certificate Number BAS02ATEX7277X – Issue 7

15 Description of Product

The 9122-IS FISCO Power Supply – IIB is designed for use in Fieldbus applications. As well as providing isolated power to devices in the hazardous area, it also provides isolation for the Fieldbus signal in both directions between the non-hazardous and hazardous area. The maximum power supply input voltage is 30V d.c.

The 9122-IS FISCO Power Supply – IIB comprises electronic components mounted on two printed circuit boards within a moulded plastic enclosure. The enclosure is designed for DIN rail mounting with electrical connections made via plug-in screw terminals.

The 9122-IS-CM FISCO Power Supply – IIB variant comprises the same circuitry as the 9122-IS variant but instead of being designed to be mounted on a DIN rail and having plug-in screw terminals, the variant is fitted with socket connections in the base of the equipment and is designed to be mounted on a certified backplane arrangement, through which its external connections are made.

The 9122-IS and 9122-IS-CM FISCO Power Supplies are marked as follows: -

9122-IS FISCO Power Supply – IIB	⊕ II (2) GD	[Ex ib Gb] IIB (-40°C ≤ T _a ≤ +70°C) [Ex ib Db] IIIC (-40°C ≤ T _a ≤ +70°C)
9122-IS-CM FISCO Power Supply - IIB	⊕ II (2) GD	[Ex ib Gb] IIB (-20°C ≤ T _a ≤ +60°C) [Ex ib Db] IIIC (-20°C ≤ T _a ≤ +60°C)

Input Parameters

9122-IS FISCO Power Supply - IIB

Input Power Supply Connector Power Pins 1, 2, & 3 (CON2 Pins 1 to 3)

$$U_m = 40V \text{ d.c}$$

The circuit connected to the safe area terminals CON2 is designed to operate from a d.c. supply voltage up to 30V.

Host Output Connector Host Pins 4, 5 & 6 (CON3 Pins 1 to 3)

$$U_m = 253V \text{ r.m.s}$$

The circuit connected to the safe area terminals CON3 is designed to operate from a d.c. supply voltage up to 32V.

FISCO Power Supply I.S. Pins 7, 8 & 9 (CON1 Pin 3 w.r.t. 1)

$$\begin{aligned} U_o &= 14.8V & C_o &= 0.50\mu F \\ I_o &= 359mA @ 14.8V & L_o &= 550\mu H \\ P_o &= 5.31W \end{aligned}$$

When used in accordance with Annex G of EN 60079-11, there is no need to take into consideration C_o and L_o.

9122-IS-CM FISCO Power Supply – IIB

Input Power Supply Connector Power CON2 Pins 1 to 4

$$U_m = 40V \text{ d.c}$$

The circuit connected to the safe area connector CON2 is designed to operate from a d.c. supply voltage up to 30V.

Host Output Connector Host CON3 Pins 1 to 4

$$U_m = 253V \text{ r.m.s}$$

The circuit connected to the safe area connector CON3 is designed to operate from a d.c. supply voltage up to 32V.

FISCO Power Supply I.S. CON1 Pins 2 / 4 w.r.t. 1 / 3

$$\begin{array}{ll} U_o = 14.8V & C_o = 0.50\mu F \\ I_o = 359mA @ 14.8V & L_o = 550\mu H \\ P_o = 5.31W & \end{array}$$

When used in accordance with Annex G of EN 60079-11, there is no need to take into consideration C_o and L_o .

16 Report Number

See Certificate History

17 Specific Conditions of Use

1. The Power In connection, for the FISCO product must be supplied from either safety extra low-voltage (SELV) or protective extra low-voltage (PELV) circuits; for example equipment complying with the requirements of either the IEC 60950 series, IEC 61010-1 or a technically equivalent standard.

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
1.2.7	LVD type requirements
1.2.8	Overloading of equipment (protection relays, etc.)
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
CI9121	1 – 16	3	2.20	MTL9121/MTL9122 Circuit Diagram
CI9121-1	1 – 6	6.2	3.20	9121-IS AND 9122-IS AND -CM Versions Fieldbus Power Supplies Components essential to Intrinsic safety PCB971 & PCB1431 - Top - PSU
CI9121-2	1 of 1	4	04.20	9121-IS AND 9122-IS And -CM Versions Fieldbus Power Supplies Components Essential to Intrinsic Safety

Number	Sheet	Issue	Date	Description
CI9121-3	1 - 6	4	2.20	9121-IS AND 9122-IS & -CM Versions Fieldbus Power Supplies Top (PSU) PCB assembly.
CI9121-4	1 – 4	3	10.19	9121-IS And 9122-IS & -CM Versions Fieldbus Power Supplies Bottom Repeater PCB Assembly
CI9121-7	1 of 1	8	3.20	9121 and 9122 FISCO Power Supply Certification Labels
CI9121-8	1 – 2	2	2.20	9121-IS and 9122-IS Fieldbus Power Supplies Top PCB (Power Supply) - Track Layout.
CI9121-9	1 – 2	2	10.19	9121-IS and 9122-IS Fieldbus Power Supplies Bottom PCB (Repeater) - Track Layout
CI9121-12	1 – 2	2	10.19	9121-IS-CM and 9122-IS-CM Fieldbus Power Supplies
CI9121-13	1 – 2	3	2.20	9121-IS-CM and 9122-IS-CM Fieldbus Power Supplies TOP PCB (Power Supply) - Track Layout.
CI9122-IS-CM-1	1 – 16	3	2.20	MTL9121/MTL9122-IS-CM Circuit Diagram

Current drawings which remain unaffected by this issue:

Number	Sheet	Issue	Date	Description
CI9121-5	1 of 1	1	08.02	TFR254 Transformer
CI9121-6	1 to 4	2	5.09	9121-IS and 9122-IS & -CM Versions Fieldbus Power Supplies General Assembly
CI9121-10	1 of 1	1	07.02	Segregation PCB
CI9121-11	1 of 1	1	08.02	Common Mode Choke
CI4100-1	1 of 1	5	06.98	MTL4100 Series IS Transformer

These drawings are common to BAS02ATEX7276X, BAS02ATEX7277X and are held with IECEX BAS 04.0031X

20 Certificate History

Certificate No.	Date	Comments
BAS02ATEX7277	30 August 2002	The release of the prime certificate. The associated test and assessment against the requirements of EN 50014: 1997 + Amds 1 & EN 50020: 1994 are documented in Certification Report No. 01(C)0717.
BAS02ATEX7277/1	8 November 2002	To permit: i) The MTL9122 FISCO Power Supply – IIB to be designated as a 9122-IS FISCO Power Supply – IIB. Minor changes to the Certification Label.
BAS02ATEX7277/2	14 February 2003	To permit minor component changes that does not affect the original intrinsic safety assessment.
BAS02ATEX7277/3	2 September 2004	To permit minor drawing changes.

Certificate No.	Date	Comments
BAS02ATEX7277/4	28 May 2009	<p>i) To confirm the 9122-IS FISCO Power Supply – IIB has been reviewed against the requirements of EN 60079-0: 2006 and EN 60079-11: 2007 in respect of the differences from EN 50014: 1997 & Amd. 1 & 2 and EN 50020: 1994 and none of the differences affect the equipment.</p> <p>ii) To confirm the 9122-IS FISCO Power Supply – IIB has been additionally assessed against the requirements of EN 60079-27: 2006 as Electrical apparatus for explosive atmospheres – Fieldbus intrinsically safe concept (FISCO).</p> <p>iii) To confirm the 9122-IS FISCO Power Supply – IIB has been additionally assessed against the requirements of EN 61241-11: 2006 as associated electrical apparatus for use in presence of combustible dust, protection by intrinsic safety ‘iD’. The assessment has no effect on the electrical parameters previously specified. The apparatus is now additionally marked ‘[Ex ibD]’.</p> <p>iv) To permit minor changes to the enclosure, PCB layout and external connection facilities to form the 9122-IS-CM FISCO Power Supply – IIB. This model of the equipment uses the same circuitry as the 9122-IS FISCO Power Supply but instead of being mounted on a DIN rail and having screw terminal for external connections, the equipment has plug and socket connections and is designed to be mounted on a certified backplane arrangement.</p> <p>The associated test and assessment is documented in Certification Report No’s. GB/BAS/ExTR09.0041/00 and GB/BAS/ExTR09.0042/00, Project File No. 08/0715.</p>
BAS02ATEX7277/5	20 August 2009	<p>To permit minor circuit and PCB layout changes to the 9122-IS-CM model not affecting the original assessment.</p> <p>The associated test and assessment is documented in Certification Report No. GB/BAS/ExTR09.0141/00, Project File No. 09/0565.</p>
BAS02ATEX7277 Issue 6	11 April 2017	<p>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.</p> <p>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.</p> <p>The associated test and assessment is documented in Certification Report No. GB/BAS/ExTR16.0304/00, Project File No. 16/0371.</p>
BAS02ATEX7277X Issue 7	22 April 2020	<p>To confirm the current design conforms to the requirements of EN IEC 60079-0:2018 and to permit the use of some alternative components and changes to the PCB. The Um parameter for Power In (CON2) is reduced to 40V dc and a condition of use is introduced. Report GB/BAS/ExTR20.0068/00 for Project 19/0479.</p>
For drawings applicable to each issue, see original of that issue.		