



1 **TYPE EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

3 Certificate Number: **Sira 13ATEX4247X** Issue: **5**

4 Equipment: **FB-6SP, 6 Spur Coupler Module**
FB-12SP, 12 Spur Coupler Module
FB-4SP/B, 4 Spur Coupler Module
FB-8SP, 8 Spur Coupler Module
FB-10SP, 10 Spur Coupler Module

5 Applicant: **Phoenix Contact GmbH and Co. KG**

6 Address: **Flachsmarktstraße**
32825 Blomberg
Germany

7 This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 **CSA Group Netherlands B.V.**, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design of Category **3** equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN IEC 60079-0:2018 EN 60079-11:2012 EN 60079-15:2005 EN 60079-15:2010

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

11 This Type Examination Certificate relates only to the design of the specified equipment, and not to specific items of equipment subsequently manufactured. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 The marking of the equipment shall include the following:



II 3(3)G
Ex nA [nL] IIC T4 Gc
Ex nA [ic] IIC T4 Gc
Ex ic IIC T4 Gc FISCO ic
Ta = -50°C to +90°C

Project Number 80103419

Signed: J A May

Title: Director of Operations

CSA Group Netherlands B.V.
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13 DESCRIPTION OF EQUIPMENT

FB-4SP/B, 4 Spur Coupler Module, FB-6SP, 6 Spur Coupler Module, FB-8SP, 8 Spur Coupler Module, FB-10SP, 10 Spur Coupler Module and FB -12SP, 12 Spur Coupler Module

The fieldbus device couplers are suitable for FOUNDATION Fieldbus™ and Profibus PA. They provide an interface between the fieldbus trunk cable and field devices. The block coupler module connects to the trunk utilising a T-connector terminal block with pre-installed terminator, ensuring termination is always available and error free.

The device is rail mounted and the circuit is contained inside a plastic case, with exposed terminals. An additional outer enclosure is required to achieve the requirement of IP54.

The FB-4SP/B, FB-6SP, FB-8SP, FB-10SP and FB-12SP modules may be used in the following configurations.

1) Use in a FISCO ic system

The certification code is Ex ic IIC T4 Gc

The system is current limited by the FISCO supply and live working on the trunk and spurs is permitted.

2) Use in a non-FISCO system with entity spurs

The certification code is Ex nA [nL] IIC T4 Gc or Ex nA [ic] IIC T4 Gc

The FB-4SP/B, FB-6SP, FB-8SP, FB-10SP and FB-12SP are powered from a supply with an output that is voltage-limited in accordance with IEC 60079-11 or 60079-15:2005. There is no requirement for the supply to have current limitation. The input voltage depends on whether the FB-6SP and FB-12SP modules are being used in a IIB or a IIC system:

	IIB	IIC
Ui	32 Vdc	24 Vdc

The maximum source inductance that may be connected to the input (trunk) connection is 20 mH.

The FB-4SP/B, FB-6SP, FB-8SP, FB-10SP and FB-12SP provide current limitation, and live working on the spurs is permitted. The spur outputs have the following entity parameters:

	IIB	IIC
Uo	Ui	Ui
Io	0.056 A	0.056 A
Po	Uo x Io	Uo x Io
Ci	0	0
Co	80 nF	80 nF
Li	0	0
Lo	0.26 mH	0.26 mH

The spurs shall be installed as separate intrinsically safe circuits.

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3) Use in non-FISCO ic system to create FISCO ic spurs

The certification code is Ex nA [ic] IIC T4 Gc.

The FB-4SP/B, FB-6SP, FB-8SP, FB-10SP and FB-12SP and is powered from a supply with an output that is voltage-limited in accordance with IEC 60079-11 to a maximum of 17.5 V. There is no requirement for the supply to have current limitation.

The maximum source inductance that may be connected to the input (trunk) connection is 20 mH.

The FB-4SP/B, FB-6SP, FB-8SP, FB-10SP and FB-12SP and provides current limitation such that the spurs are FISCO ic compliant and live working is permitted.

The spurs shall be installed as separate intrinsically safe circuits.

Variation 1 - This variation introduced the following changes:

- i. The products were allowed to be used with IIC gases, whilst their design is relatively unchanged, the content of the certificate has been modified to recognise that:
 - The marking has been changed.
 - The product description now differentiates between IIC ($U_i = 24$ Vdc) and IIB ($U_i = 32$ Vdc) applications (the connection to the input terminals was reased from 8.4 mH to 20 mH for both IIC and IIB), new entity parameters were also included.
 - A Special Condition for Safe Use was amended to show that the new value for the connection to the input terminals.

Because the content of Issue 1 has changed considerably, the reader should refer to Issue 0 to review the previous usage of these products.

Variation 2 - This variation introduced the following changes:

- i. Recognition of Phoenix Contact Development and Manufacturing at Middletown Pennsylvania as the Manufacturing site.
- ii. Introduction of the following new models, the description was amended accordingly:
 - FB-4SP/B, 4 Spur Coupler Module
 - FB-8SP, 8 Spur Coupler Module
 - FB-10SP, 10 Spur Coupler Module

Variation 3 - This variation introduced the following changes:

- i. Replacement of safety critical diode due to obsolescence of part.

Variation 4 - This variation introduced the following changes:

- i. Update of two transistors.
- ii. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, EN 60079-0:2012 was replaced by EN IEC 60079-0:2018.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

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14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	02 October 2013	R29007A/00	The release of prime certificate.
1	17 February 2014	R32247A/00	The introduction of Variation 1.
2	04 th May 2018	R70173722A	This Issue covers the following changes: • Type Examination Certificate in accordance with 94/9/EC updated to-Type Examination Certificate in accordance with Directive 2014/34/EU. (<i>In accordance with Article 41 of Directive 2014/34/EU, 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. Variations to such Type Examination Certificates may continue to bear the original certificate number issued prior to 20 April 2016.</i>) • The introduction of Variation 2.
3	15 October 2019	0500	Transfer of certificate Sira 13ATEX4247X from Sira Certification Service to CSA Group Netherlands B.V.
4	06 May 2020	R80040603A	The introduction of Variation 3.
5	10 February 2022	R80103419A	The introduction of Variation 4.

15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

- 15.1 If the module is installed in a zone 2 hazardous area, it shall be housed in an enclosure that is coded Ex nA, Ex e, Ex d or Ex p. If the module is installed in a zone 22 or zone 21 hazardous area, it shall be housed in an enclosure that is coded Ex tD or Ex t. For some types of enclosure, additional certification will be required to permit the installation of the module within the enclosure. Reference should be made to the enclosure certificate. The installer shall ensure that the maximum ambient temperature of the module when installed is not exceeded.
- 15.2 If the module is installed in a non-hazardous area, the enclosure or location shall provide suitable protection. This may either be by the use of an outer enclosure approved for use in zone 2 or 22 or otherwise meeting the following requirements:
- Non-metallic enclosures must be capable of withstanding the thermal endurance requirements of EN 60079-0, prior to impact and IP 54 testing.
 - Any enclosure must be capable of withstanding an impact of 7J or the module otherwise protected from impact.
 - The enclosure or location must provide an ingress protection of at least IP 54.
 - If exposed to sunlight, non-metallic enclosures must be capable of meeting the resistance to light requirements of EN 60079-0.
- 15.3 When the module is mounted in a zoned area, connection and disconnection of the trunk terminal while live is only permitted if the potentially explosive atmosphere is shown to be absent.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

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17 CONDITIONS OF MANUFACTURE

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of CSA Certificates.
- 17.2 Holders of Type Examination Certificates are required to comply with the conformity to type requirements defined in Article 13 of Directive 2014/34/EU.

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Certificate Annexe



Certificate Number: Sira 13ATEX4247X

Equipment:
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FB-8SP, 8 Spur Coupler Module
FB-10SP, 10 Spur Coupler Module

Applicant: Phoenix Contact GmbH and Co. KG

Issue 0

Drawing no.	Sheets	Rev.	Date (Sira stamp)	Title
503-146	1 to 10	B.0	01 Oct 13	FB-6SP (PXC 6-Spur Brick)
503-061	1 to 16	B.0	01 Oct 13	FB-12SP (PXC 12-Spur Brick)
00720853	1 to 2	00	01 Oct 13	Ex General arrangement FB-6SP
00720867	1 to 2	00	01 Oct 13	Ex General arrangement FB-12SP
00732430	1 of 1	00	01 Oct 13	Safety critical Component List FB-6SP
00732429	1 of 1	00	01 Oct 13	Safety critical Component List FB-12SP
00721147	1 of 1	00	01 Oct 13	Ex marking detail FB-6SP
00721550	1 of 1	00	01 Oct 13	Ex Marking detail FB-12SP

Issue 1

Drawing no.	Sheets	Rev.	Date (Sira stamp)	Title
00721150	1 of 1	02	17 Feb 14	FB-12SP Ex Marking
00721147	1 of 1	02	17 Feb 14	FB-6SP Ex Marking

Issue 2

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
00720853	1 to 2	02	03 May 18	FB-6SP EX GA Drawing
00720867	1 to 2	02	03 May 18	FB-12SP EX GA Drawing
00721147	1 of 1	05	03 May 18	FB-6SP EX Marking Detail
00721150	1 of 1	05	03 May 18	FB-12SP EX Marking Detail
00732429	1 of 1	01	03 May 18	Safety Critical Component List FB-12SP, FB-10SP & FB-8SP
00732430	1 of 1	01	03 May 18	Safety Critical Component List FB-6SP & FB-4SP/B

Issue 3. No new drawings were introduced.

Issue 4

Drawing	Sheets	Rev.	Date (Sira stamp)	Title
00699740*	1 to 10	02	29 Apr 20	FB-6SP (PXC 6-Spur Brick) Schematic
00699766*	1 to 16	03	29 Apr 20	FB-12SP (PXC 12-Spur Brick) Schematic
00732429	1 of 1	02	29 Apr 20	Safety Critical Component List FB-12SP, FB-10SP & FB-8SP
00732430	1 of 1	02	29 Apr 20	Safety Critical Component List FB-6SP & FB-4SP/B

*Drawing no. 00699740 was previously referenced as 503-146

*Drawing no. 00699766 was previously referenced as 503-061

Issue 5

Drawing	Sheets	Rev.	Date (Stamp)	Title
00699740	1 to 10	03	22 Dec 21	Schematic for FB-6SP
00699766	1 to 16	04	22 Dec 21	Schematic for FB-12SP
00732429	1 of 1	03	22 Dec 21	Safety Critical Component List FB-12SP, FB-10SP and FB-8SP
00732430	1 of 1	03	22 Dec 21	Safety Critical Component List FB-6SP, FB-4SP/B

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