



UNITED KINGDOM CONFORMITY ASSESSMENT

1 **UK TYPE EXAMINATION CERTIFICATE**

2 Equipment Intended for use in Potentially Explosive Atmospheres
UKSI 2016:1107 (as amended) – Schedule 3A, Part 1

3 Certificate Number: **CSAE 21UKEX2538** Issue: **2**
4 Product: **X005 3-Port Galvanic Isolation Amplifier**
5 Manufacturer: **Positek a division of Variohm Eurosensor Ltd.**
6 Address: **Hermes House
Andoversford Link
Andoversford
Cheltenham, GL54 4LB
UK**

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

8 CSA Group Testing UK Limited, Approved Body number 0518, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), 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 Schedule 1 of the Regulations. 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 has been assured by compliance with:
EN IEC 60079-0:2018 EN 60079-11:2012

Except in respect of those requirements listed at Section 16 of the schedule to this certificate. The above standards may not appear on the UKAS Scope of Accreditation, but have been added through flexible scope of accreditation, which is available on request.

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

11 This UK TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of this product shall be in accordance with Regulation 41 and include the following:



I (M1)
[Ex ia Ma] I

Ta = -20°C ≤ Ta ≤ +60°C



II (1)GD
[Ex ia Ga] IIC
[Ex ia Da] IIIC

Ta = -20°C ≤ Ta ≤ +60°C

Name: Michelle Halliwell
Title: Director of Operations



SCHEDULE

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13 DESCRIPTION OF PRODUCT

The X005 3-Port Galvanic Isolation Amplifier is designed to restrict the transfer of energy, from unspecified safe area equipment to intrinsically safe circuits, by the limitation of voltage and current. The unit comprises a single printed circuit board housed in a plastic enclosure which may be clipped to a DIN rail. Hazardous and safe area connections are made via two sets of two three-way terminal connectors on the top of the unit. The printed circuit board contains isolating transformers, fuses, zener diodes and current limiting resistors together with other electronic components.

The circuit connected to the safe area terminals V+ & 0V is designed to operate from a d.c. supply voltage of up to 35V. Outputs O/P+ and O/P- are designed to drive a nominal 0 to 10 Volts or 4 to 20mA load.

Terminal J3:1, J3:3, J4:1 and J4:3	Terminals J1:2, J1:3, J2:2, J2:1, J1:1															
Um = 253 V	Uo = 10.66 V Io = 50.5 mA Po = 121 mW															
	<table border="1"> <thead> <tr> <th>Group</th> <th>IIC</th> <th>IIB</th> <th>IIA</th> <th></th> </tr> </thead> <tbody> <tr> <td>Co =</td> <td>2.23</td> <td>15.6</td> <td>69.0</td> <td>μF</td> </tr> <tr> <td>Lo =</td> <td>14</td> <td>53</td> <td>112</td> <td>mH</td> </tr> </tbody> </table>	Group	IIC	IIB	IIA		Co =	2.23	15.6	69.0	μF	Lo =	14	53	112	mH
Group	IIC	IIB	IIA													
Co =	2.23	15.6	69.0	μF												
Lo =	14	53	112	mH												

Issue 1 – this Issue introduced the following change:

- i. To permit a Zener diode to be a generic type.

Issue 2 – this Issue introduced the following change:

- i. Change of Applicants additional manufacturing location name and address as follows:

From	To
Positek a Division of Variohm Eurosensor Ltd, L6 Andoversford link Andoversford Industrial estate Andoversford, Cheltenham Gloucester, GL54 4LB	Positek a Division of Variohm Eurosensor Ltd Hermes House Andoversford Link Andoversford Cheltenham, GL54 4LB

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	06 April 2022	R80092440A	The release of the prime certificate.
1	03 October 2022	R80140959A	The introduction of Variation 1.
2	12 January 2024	R80192704A	The introduction of Variation 2.

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

None.





SCHEDULE

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16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS (REGULATIONS SCHEDULE 1)

In addition to the Essential Health and Safety Requirements covered by the standards listed in Section 9, all other requirements are demonstrated in the relevant reports.

17 PRODUCTION CONTROL

- 17.1 Holders of this certificate are required to comply with production control requirements defined in Schedule 3A, as applicable, and CSA Group Testing UK Regulations for Certificate Holders
- 17.2 The non-mains transformer, TR01, is subject to routine tests at voltages of 1506V (1000V+2U with $U_m=253V$): between the input winding and the intrinsically safe circuit output windings, between the safe side output winding and the intrinsically safe circuit output windings, in accordance with clause 11.2 of IEC 60079-11:2011 Ed. 6 and EN 60079-11: 2012.
- 17.3 The non-mains signal transformer, TR02, is subject to routine tests at voltages of 1016V rms between I.S input windings and the output windings, in accordance with clause 11.2 of IEC 60079-11:2011 Ed. 6 and EN 60079-11: 2012.



CSA Group Testing UK Ltd., Unit 6 Hawarden Industrial Park, Hawarden, CH5 3US, UK

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Certificate Annexe

Certificate Number: CSAE 21UKEX2538
Product: X005 3-Port Galvanic Isolation Amplifier
Manufacturer: Positek a division of Variohm Eurosensor Ltd.

Issue 0

Drawing	Sheets	Rev.	Date (Stamp)	Title
EX05-59	1 of 2	A	16 Sep 10	Galvanic Isolation Barrier – Input Power
EX05-59	2 of 2	A	16 Sep 10	Galvanic Isolation Barrier – Input/Output Power
X005-20	1 to 6	H	03 Mar 22	Galvanic Isolation Barrier – Parts List
TR01-10	1 & 2	C	16 Sep 10	TR01 Specification
TR02-10	1 & 2	C	16 Sep 10	TR02 Specification
X005-13	1 of 1	A	16 Sep 10	Connector Coding
X005-12	1 of 1	F	10 Feb 22	Galvanic Isolation Amplifier – Case Artwork

Issue 1.

Drawing	Sheets	Rev.	Date (Stamp)	Title
X005-20j	1 to 9	J	22-Sep-22	Galvanic Isolation Barrier – Parts List

Issue 2. No new drawings were introduced.

