1 **EC TYPE-EXAMINATION CERTIFICATE**

2 Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

3 Certificate Number: **Sira 10ATEX1225X** Issue: **7**

4 Equipment: **Types AB & AJ Adaptors and Types BB & BJ Reducers**
Type AR & BR Male/Male Adaptors,
Types AU & AX Female/Female Adaptors
Types FB and FL Union Adaptors
Types DG & DN Earthlead Adaptors and Reducers
Types CK & CQ Stopping Plugs
Types AB & AJ Adaptors (Nylon), Types BB & BJ Reducers (Nylon)

5 Applicant: **EX Innovations Limited**

6 Address: Jepson Court
Tancred Close
Queensway
Royal Leamington Spa
Warwickshire CV31 3RZ, UK

Trading as Raxton
Kingsway South
Westgate
Aldridge
West Midlands WS9 8FS, UK

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

8 Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of 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 60079-0:2009 EN 60079-1:2007 EN 60079-7:2007 EN 60079-31:2009

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

12 An example of the marking is shown below: For specific product marking refer to the schedule:

I M2
Ex d I Mb
Ex e I Mb

Or

II 2 G D
Ex d IIC Gb
Ex e IIC Gb
Ex tb IIIC Db

Project Number 31833

C Ellaby
Deputy Certification Manager

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13 **DESCRIPTION OF EQUIPMENT**

The Types **AB & AJ Adaptors and Types BB & BJ Reducers** are designed to convert an existing cable entry aperture, in their associated apparatus, to a different thread form and/or size. Each device comprises a hollow body with a male thread at one end and a female thread at the other. Entry thread forms are between M12 and M120.

An increase of up to two step thread sizes is permitted on the AB & AJ Series, in addition, equal sizes are also allowed.

Material options:

- Brass to BS 2874:1985
- Brass to BS 2872:1989
- Stainless steel to BS 970: part 4:1970
- Mild steel to BS 970: Part 1: 1983
- Aluminium 2011, 6082 (HE30) - Aluminium option is not for Group I use

Entry thread options:

- Metric to BS 3643:1981
- ET Conduit to BS 31:1940
- PG to DIN 40430:1971
- BSPP to BS 2779:1985
- BSPT to BS 21:1985
- NPT to ANSI/ASME B1.20.1-1983

Ex	I M2 Ex d I Mb Ex e I Mb	Or	Ex	II 2 G D Ex d IIC Gb Ex e IIC Gb Ex tb IIIC Db

Ta = -60°C to +200°C

Note - Reduced marking is applied in accordance with EN 60079-0 Clause 29.10 remaining marking is detailed in the instructions.

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SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE **Sira 10ATEX1225X**
Issue 7

Type AR & BR Male/Male Adaptors and Types AU & AX Female/Female Adaptors

The Type AR & BR Male/Male Adaptor and Types AU & AX Female/Female Adaptors are used to convert an existing cable entry aperture to a different thread form and/or size. They each comprise a hollow body with either male threads (types AR and BR) or female threads (types AU, AX, BU and BX) at each end. The thread forms are between M16 and M75. Thread combinations are such that a maximum of one 'standard' size difference is maintained.

Type designations determine thread combinations and body profiles.

Material options:

- Brass to BS 2874:1985
- Stainless steel to BS 970: part 4:1970
- Mild steel to BS 970: Part 1: 1983

Entry thread options:

- Metric to BS 3643:1981
- ET Conduit to BS 31:1940
- PG to DIN 40430:1971
- BSPP to BS 2779:1973
- BSPT to BS 21:1985
- NPT to ANSI/ASME B1.20.1-1983

Ex	I M2 Ex d I Mb Ex e I Mb	Or	Ex	II 2 G D Ex d IIC Gb Ex e IIC Gb Ex tb IIIC Db

Note - Reduced marking is applied in accordance with EN 60079-0 Clause 29.10 remaining marking is detailed in the instructions.

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SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE **Sira 10ATEX1225X**
Issue 7

Types FB and FL Union Adaptors

The Types FB and FL Union Adaptors are intended for in-line cable gland connection. Each union comprises two threaded entry components and a 'spinning' internal component. The components are assembled such that flamepaths are formed at both the entry threads and around the 'spinning' components and such that connection at both ends is achieved without twisting the cable. The thread forms are between M16 and M75. Thread combinations are such that a maximum of one 'standard' size difference is maintained.

Material options:
- Brass to BS 2874:1985
- Brass to BS 2872:1989
- Stainless steel to BS 970: part 4:1970
- Mild steel to BS 970: Part 1: 1983

Entry thread options:
- Metric to BS 3643:1981
- ET Conduit to BS 31:1940
- PG to DIN 40430:1971
- BSPP to BS 2779:1973
- BSPT to BS 21:1985
- NPT to ANSI/ASME B1.20.1-1983

Ⓔx	I M2 Ex d I Mb Ex e I Mb	Or	Ⓔx	II 2 G D Ex d IIC Gb Ex e IIC Gb Ex tb IIIC Db

Note - Reduced marking is applied in accordance with EN 60079-0 Clause 29.10 remaining marking is detailed in the instructions.

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SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE **Sira 10ATEX1225X**
Issue 7

Types DG & DN Earthlead Adaptors and Reducers

The Types DG and DN Earthlead Adaptors and Reducers each comprise a hollow, brass, hexagonal body with a male thread at one end and a female thread at the other. The entry thread forms are between M16 and M75. Thread combinations are such that a maximum of one 'standard' size difference is maintained.

The components are designed to provide a connection from a cable gland or termination to earth via an earth lead cable riveted and soldered to the body. Additionally, they may be used to convert an existing cable entry aperture to a different thread form and/or size.

Entry thread options:

- Metric to BS 3643:1981
- ET Conduit to BS 31:1940
- PG to DIN 40430:1971
- BSPP to BS 2779:1985
- BSPT to BS 21:1985
- NPT to ANSI/ASME B1.20.1-1983

I M2	II 2 G D
Ex d I Mb	Ex d IIC Gb
Ex e I Mb	Ex e IIC Gb
	Ex t IIIC Db

Note - Reduced marking is applied in accordance with EN 60079-0 Clause 29.10 remaining marking is detailed in the instructions.

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SCHEDULE

EC TYPE-EXAMINATION CERTIFICATE **Sira 10ATEX1225X**
Issue 7

Types CK & CQ Stopping Plugs
Types AB & AJ Adaptors (Nylon)
Types BB & BJ Reducers (Nylon)

Types AB & AJ Adaptors and Types BB & BJ Reducers (Nylon): these devices are designed to convert an existing cable entry aperture in the associated apparatus to a different threadform and/or size. Each device comprises a hollow body with a male thread at one end and a female thread at the other. The AB is a hexagon type adaptor and AJ is a round diameter Type adaptor. The BB is a hexagon type reducer and BJ is a round diameter type reducer. Thread adaptors can have thread sizes between M20 and M75 and thread reducers between M25 and M75

Types CK & CQ Stopping Plugs: these are a range of threaded stopping plugs that are used to fill unused entries in the associated apparatus. The CK has a hexagon head key way and the CQ has a 'mushroom' head, the plugs can have thread sizes between M20 and M75.

Material options:
- Type Durethan BKV 30 N1 Glass Filled Nylon 6
- Type Durethan BKV 140 Glass Filled Nylon 6

Entry thread options:
- Metric to BS 3643:1981
- ET Conduit to BS 31:1940
- PG to DIN 40430:1971
- BSP to BS 21:1985
- NPT to ANSI/ASME B1.20.1-1983

II 2 G D
Ex e IIC Gb
Ex t IIIC Db

Variation 1 - This variation introduced the following changes:

i. The products were assessed against the dust standard EN 60079-31:2008 and the marking at section 12 amended accordingly.

Variation 2 - This variation introduced the following changes:

i. To permit components listed under Sira 10ATEX1226U, Sira 10ATEX1227U, Sira 10ATEX3229U and Sira 10ATEX3335U to be added, as equipment to the certificate.
ii. The recognition of minor drawing modifications; correction of sizes to the AR, BR, AU and AX Adaptors; these amendments are administrative or involve changes to the design that do not affect the aspects of the product that are relevant to explosion safety

Variation 3 - This variation introduced the following change:

i. The recognition that the company name and address has changed from Raxton Ltd, Westgate, Aldridge, West Midlands WS9 8FS to EX Innovations Ltd., Trading as Raxton at Jepson Court, Tancred Close, Queensway, Royal Leamington Spa, Warwickshire CV31 3RZ.
ii. The introduction of a Condition of Certification.

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Variation 4 - This variation introduced the following change:

i. The size range of the Types AB & AJ Adaptors and Type BB & BJ Reducers (metallic variants only) was extended to include M12 threaded devices; the description was modified to recognise this change.
ii. The Types AB & AJ Adaptors and Type BB & BJ Reducers (metallic variants only) were allowed to be made from aluminium grade 2011 or 6082 (HE30); NOTE: aluminium devices are not suitable for Group I Mining applications and shall not be marked as such.
iii. The ambient temperature range of all metallic products was changed from -20°C to +40°C to -60°C to +200°C based on metallic construction and the use of no non-metallic parts.
iv. The date of EN60079-31 was corrected.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	22 October 2010	R22194A/00	The release of the prime certificate.
1	28 July 2011	R22195A/00	The introduction of Variation 1
2	20 April 2012	N/A	Issued to correct the marking
3	16 August 2012	R28465A/00 R23297A/00	The introduction of Variation 2
4	9 November 2012	N/A	Issued to correct a typographical error in the marking
5	15 January 2013	R29745A/00	The introduction of Variation 3.
6	31 July 2013	R28464A/00	The introduction of Variation 4.
7	4 September 2013	R22195A/01	Report no. R22195A/01 replaced R22195A/00 to correct a typographical error.

15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

15.1 Types AB & AJ Adaptors and Types BB & BJ Reducers

- When used for Increased Safety ('Ex e') applications, a suitable method of sealing to the associated enclosure shall be fitted.
- When constructed from aluminium, are to be positioned where they are subject to low risk of mechanical impact only.

15.2 Types FB and FL Union Adaptors
Types DG & DN Earthlead Adaptors and Reducers
Type AR & BR Male/Male Adaptors and Types AU & AX Female/Female Adaptors

- When used for Increased Safety (Ex e) applications, a suitable method of sealing to the associated enclosure shall be fitted.

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15.3 **Types CK & CQ Stopping Plugs**
Types AB & AJ Adaptors (Nylon)
Types BB & BJ Reducers (Nylon)

- All entry devices shall only be installed where there is a low risk from mechanical impact.
- The stopping plugs shall not be used with any form of adaptors or reducers.
- Only one adaptor or reducer is to be used with any single cable entry on the associated equipment.
- The interfaces between these devices and the associated enclosure cannot be defined; therefore, it is the user's responsibility to ensure that the appropriate ingress protection level is maintained at these interfaces.
- When manufactured in BKV 30 NI type material, the entry devices are suitable for a service temperature range of -20°C to +65°C.
- When manufactured in BKV 140 type material, the entry devices are suitable for a service temperature range of -20°C to +45°C; items made from this material are marked with 'BKV 140'.
- When the entry devices are manufactured in BKV 140 type material, they shall be protected from exposure to light; items made from this material are marked with 'BKV 140'.

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.

17 **CONDITIONS OF CERTIFICATION**

17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.

17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.

17.3 **Types CK & CQ Stopping Plugs**
Types AB & AJ Adaptors (Nylon)
Types BB & BJ Reducers (Nylon)

- The female threads of adaptors shall be restricted to one size larger than the male thread size.
- When these entry devices are manufactured in Type BKV 140 material, they shall be to be marked with BKV 140.

17.4 These products shall be marked in accordance with the information as specified in this certificate and related reports.

17.5 **Types AB & AJ Adaptors and Type BB & BJ Reducers constructed from Aluminium:**

- shall not be marked for Group I applications.
- and plated shall be marked with the word Aluminium for identification.

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Certificate Annexe

Certificate Number: **Sira 10ATEX1225X**

Equipment: **Adaptors, Reducers and Stopping Plugs**

Applicant: **EX Innovations Limited Trading as Raxton**

Issue 0

Drawing No.	Sheets	Rev.	Date (Sira Stamp)	Title
827	1 of 1	-	11 Oct 10	Adaptors (Male x Female)
828	1 of 1	-	11 Oct 10	Reducers (Male x Female)

Issue 1

Drawing No.	Sheets	Rev.	Date (Sira Stamp)	Title
827A	1 of 1	1	02 Jun 11	Adapters (Male x Female)
828A	1 of 1	1	02 Jun 11	Reducers (Male x Female)

Issue 2 (No new drawings were introduced.)

Issue 3

Drawing No.	Sheets	Rev.	Date (Sira stamp)	Title
830	1 of 1	-	13 Aug 12	Types FB and FL Union Adaptors
833	1 of 1	-	13 Aug 12	Types DG and DN Earthlead
851	1 of 1	2	13 Aug 12	Types CK and CQ Union Adaptors
852	1 of 1	2	13 Aug 12	AB and AJ, BB and BJ Adaptors and Reducers
829	1 of 1	-	13 Aug 12	Male/Male and Female/Female Adaptors

Issue 4 (No new drawings were introduced.)

Issue 5

Drawing No.	Sheets	Rev.	Date (Sira Stamp)	Title
MD - 01	1 of 1	1	14 Jan 13	Raxton Marking Label Drawing

Issue 6

Drawing No.	Sheets	Rev.	Date (Sira stamp)	Title
827A	1 of 1	2	02 Jul 13	Adaptors AB & AJ
828A	1 of 1	2	02 Jul 13	Reducers BB & BJ

Issue 7 (No new drawings were introduced.)

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