



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEX Scheme visit www.iecex.com

Certificate No.: IECEX ITS 16.0013X Issue No: 2 Certificate history:
Status: **Current** Issue No. 2 (2019-02-22)
Date of Issue: **2019-02-22** Issue No. 1 (2018-07-09)
Page 1 of 6 Issue No. 0 (2017-04-06)

Applicant: **Eaton Electrical Systems Ltd Trading as Redapt, Raxton or Capri**
Kingsway South
Westgate
Aldridge
West Midlands
WS9 8FS
United Kingdom

Equipment: **AD-U, AM-D, AM-U, UN-D, UN-U, UF-D, UF-U, AF-U, AD-E-4 Thread Adaptors, RD-U, RD-E-4 Reducers and AE-E Earthlead Adapters, Reducers and UN-D, UN-U, UF-D, FB and FL Unions**

Optional accessory:

Type of Protection: **Ex db, eb and tb as applicable**

Marking:
IECEX ITS 16.0013X
Ex db I/IIC Mb/Gb
Ex eb I/IIC Mb/ Gb
Ex tb III C Db IP6X

*Approved for issue on behalf of the IECEX
Certification Body:*

P Moss

Position:

Certification Officer

*Signature:
(for printed version)*

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEX Website](http://www.iecex.com).

Certificate issued by:

Intertek Testing & Certification Limited
ITS House, Cleeve Road,
Leatherhead,
Surrey, KT22 7SA
United Kingdom





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Manufacturer: **Eaton Electrical Systems Ltd Trading as Raxton, Redapt or Capri**
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Aldridge
West Midlands
WS9 8FS
United Kingdom

Additional Manufacturing location(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended.

STANDARDS:

The apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2014-06 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31 : 2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
IEC 60079-7 : 2015 Edition:5.0	Explosive atmospheres – Part 7: Equipment protection by increased safety "e"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

[GB/ITS/ExTR16.0015/00](#)

[GB/ITS/ExTR16.0015/01](#)

[GB/ITS/ExTR16.0015/02](#)

Quality Assessment Report:

[GB/SIR/QAR06.0014/08](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Adaptors and Reducers

The ranges of thread adaptors and reducers each comprise a hollow body with an external male thread and an internal female thread. The devices are used to convert an existing cable entry aperture thread to a different thread form and / or size. The adaptors and reducers may optionally be machined with a groove to fit an 'o' ring seal. An increase of up to two step thread sizes is permitted on the AD-U series

AD-U and RD-U Series – Metallic hexagonal bodied adaptors (AD-U) or reducers (RD-U)

Coded: Ex d I/IIC Mb/Gb, Ex e I/IIC Mb/ Gb Ex tb IIIC Db IP6X

M16 TO M120 (or equivalent thread forms)

The **AM-D** and **AM-U** Series range of Male to Male thread adaptors each comprises a hexagon body with a male thread form at each end. The devices are used to convert an existing cable entry aperture thread to a different thread form and/or size. Coded: Ex d I/IIC Mb/Gb, Ex e I/IIC Mb/ Gb Ex tb IIIC Db IP6X

M16 TO M75 (or equivalent thread forms)

The **AF-U** Series range of Female to Female thread adaptors each comprises a hexagon body with a female thread form at each end. The devices are used to convert an existing cable entry aperture thread to a different thread form and/or size. Coded: Ex d I/IIC Mb/Gb, Ex e I/IIC Mb/ Gb Ex tb IIIC Db IP6X

M16 TO M75 (or equivalent thread forms)

Types **AD-E-4** Adaptors and Types **RD-E-4** Reducers are glass fibre nylon versions, BKV30 is the standard material type and BKV140 is a specific type. They 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 AD-E-4 is a hexagon type adaptor. The RD-E-4 is a hexagon type reducer. Coded: Ex e IIC Gb, Ex tb IIIC Db IP6X

M16 TO M75 (or equivalent thread forms)

The **AE-E** Series range of earth lead adaptors and reducers each comprise a hexagon body with a male thread at one end and a female thread machined into the other. The devices are designed to provide a connection from a cable gland or termination to earth via a 300mm long earth lead cable riveted and soldered to the body and additionally may be used to convert an existing cable entry aperture thread to a different thread form and/or size. Coded Ex e IIC Gb Ex tb IIIC Db IP6X

M16 TO M75 (or equivalent thread forms)

Type **UN-D**, **UN-U** and **FB** Male to Female Unions and **UF-D**, **UF-U** and **FL** Female to Female Unions each comprise a hexagon body, an internally threaded cone and an external nut. The devices are designed for connection when a conventional adaptor is impractical. Additionally, they may be used to convert an existing cable entry to a different threadform and/or size. Threadforms of FB and FL are M16 to M75. The threadforms of UN-D and UF-D are between M20 and M75

Coded: Ex d I/IIC Mb/Gb, Ex e I/IIC Mb/ Gb Ex tb IIIC Db IP6X

M16 TO M75 (or equivalent thread forms)

Thread forms Options:

ISO Metric (to BS3463), PG to DIN40430, NPT (ANSI/ASME B1.20.1), NPS (ANSI/ASME B1.20.1), ISO Pipe Thread (BS21) BSPP/BSPT, Imperial conduit ET BS31BSP to BS21

Conditions of manufacture



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The Manufacturer shall comply with the following:

1. The female threads of adaptors shall be restricted to two sizes larger than the male thread size.
2. When these entry devices are manufactured in Type BKV 140 material, they shall be to be marked with BKV 140 as applicable.
3. These products shall be marked in accordance with the information as specified in this certificate and related reports.
4. Aluminium variants, where applicable, are not permitted for Group I applications. The manufacturer shall ensure that the equipment is marked appropriately
5. In accordance with IEC 60079-1, the coating on joint surfaces of metallic devices that are electroplated shall be no more than 0.008mm thick.

SPECIFIC CONDITIONS OF USE: YES as shown below:

General:

- 1 Only one adaptor or reducer is to be used with any single cable entry on the associated equipment.
- 2 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.
3. Aluminium variants are not permitted for Group I applications

Conditions specific to type:

AD-U Adaptors and RD-U Reducers

1.
When installed in Group I applications, the ADU M16 (M) to M20 (F) adaptors manufactured in brass shall be installed where the risk of impact is low
2.
At their point of mounting, these devices are suitable for use at the following temperatures dependant on the type of 'o'-ring:
O-ring Service temperature
None fitted -60°C to 180°C *
EPDM -30°C to +125°C
Nitrile -20°C to +80°C
Neoprene -20°C to +100°C
Viton -5°C to +180°C *
Silicone -30°C to +180°C *
Fluorosilicone -50°C to +150°C
BKV30 glass fibre nylon -20°C to +65°C

*: Note: The maximum temperature is limited to 150°C in Group I application (Coal dust, Mining)

AE-E Earth Lead Adaptors and Reducer

3. At their point of mounting, these devices are suitable for use at -20°C to +40°C



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AM-D, AM-U and AF-U Thread Adaptors

4.

At their point of mounting, these devices are suitable for use at -60°C to +200°C

5.

These devices shall not be used for the direct inter-connection of enclosures

FB, FL, UN-D, UN-U, UF-U and UF-D Union

6.

At their point of mounting these devices are suitable for use at -60°C to 200°C



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Issue 1: AMU, UNU, UFU as stated to be changed in AMD, UND and UFD. Intertek Project G103326730

Issue 2: Updated for QAR in the entity of Eaton Electrical Systems. AM-U, UN-U and UF-U re-instated as option certified for both Ex e, Ex d and Ex tb