



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX ITS 16.0013X** Page 1 of 5 Certificate history:  
Status: **Current** Issue No: 3 [Issue 2 \(2019-02-22\)](#)  
Date of Issue: 2019-10-24 [Issue 1 \(2018-07-09\)](#)  
[Issue 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, UF-U/ UF-D, AF-U, AD-E4 Thread Adaptors, RD-U, RD-E4 Reducers and AE-E Earthlead Adaptors, Reducers and UN-D/ UN-U, UF-D/ UF-U, 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 IIIC Db

Approved for issue on behalf of the IECEx Certification Body:

**V K Varma**

Position:

**Certification Officer**

Signature:  
(for printed version)

2019-10-24

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 [www.iecex.com](http://www.iecex.com) or use of this QR Code.



Certificate issued by:

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



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Kingsway South  
Westgate  
Aldridge  
West Midlands  
WS9 8FS  
**United Kingdom**

Additional  
manufacturing  
locations:

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 equipment 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** Explosive atmospheres - Part 0: General requirements  
Edition:6.0

**IEC 60079-1:2014-06** Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

**IEC 60079-31:2013** Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

**IEC 60079-7:2015** Explosive atmospheres – Part 7: Equipment protection by increased safety "e"  
Edition:5.0

This Certificate **does not** indicate compliance with 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 Reports:

[GB/ITS/ExTR16.0015/00](#)  
[GB/ITS/ExTR16.0015/03](#)

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

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

Quality Assessment Report:

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



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## 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 db I/IIC Mb/Gb, Ex eb I/IIC Mb/ Gb Ex tb IIIC Db

M12 TO M120 (or equivalent thread forms)

The **AM-D / 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 M90 (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 M120 (or equivalent thread forms)

Types **AD-E4** Adaptors and Types **RD-E4** Reducers are glass fibre nylon versions, 30% Glass Filled Nylon is the standard material type and 40% Glass Filled Nylon 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-E4 is a hexagon type reducer. Coded: Ex eb IIC Gb, Ex tb IIIC Db

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 eb IIC Gb Ex tb IIIC Db

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 db I/IIC Mb/Gb, Ex eb I/IIC Mb/ Gb Ex tb IIIC Db

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

**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 40% Glass Filled Nylon material, they shall be to be marked with '40% Glass Filled Nylon' 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



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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 and non metallic material Service temperatures:  
None fitted -60°C to 200°C \*  
EPDM -50°C to +100°C  
Nitrile -30°C to +80°C  
Neoprene -40°C to +80°C  
Viton -20°C to +180°C \*  
Silicone -60°C to +180°C \*  
Fluorosilicone -60°C to +130°C  
30% Glass Filled Nylon -30°C to +90°C  
40% Glas Filled Nylon -20°C to +45°C

**Note:** The limiting temperatures specified above are de-rated by 20K according to Clause 7.2.2 'Material Selection' of EN 60079-0:2012+A11:2013

**Note:** The maximum temperature is limited to 150°C in Group I application (Coal dust, Mining) O-ring materials affect marked with '\*\*' above

**Note:** Unless fitted with an interface sealing O-ring with lower properties, temperatures shall then be limited as per the manufacturer's instructions

#### **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

#### **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/ 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

Issue 3: (This certificate) Nylon material reference revised. Drawing AD/RD-E4 revised to Issue 2 dated 09/07/2019. Intertek Project No G104039337