

UK-TYPE EXAMINATION CERTIFICATE

Product or Protective Systems Intended for Use in Potentially Explosive Atmospheres

UKSI 2016:1107 (as amended) – Schedule 3A, Part 1

1. **UK-Type Examination Certificate Number:** ITS21UKEX0050X **Issue 00**
2. **Product:** AD-U, AM-D/AM-U, AF-U, AD-E4 Thread Adapters, RD-U, RD-E4 Reducers and AE-E Earthlead Adapters, Reducers, UN-D / UN-U, UF-D / UF-U, FB and FL Unions
3. **Manufacturer:** Eaton Electrical Systems Ltd – trading as Eaton, Raxton, Redapt or Capri
4. **Address:** Unit 1, 1 Kingsway South, Westgate, Aldridge, West Midlands, WS9 8FS, United Kingdom
5. This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
6. Intertek Testing and Certification Limited, Approved Body number 0359, 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 report G102174344E Issue: 1 Dated: September 2016, G103326730 Issue 1 dated April 2018, 103717291LHD-001e dated April 2019 and 104039337LHD-001d dated August 2019.
7. Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN 60079-0:2012+A11:2013, EN 60079-1:2014, EN 60079-7:2015+A1:2018 and EN 60079-31:2014 except in respect of those requirements referred to within item 14 of the Schedule.
8. If the sign “X” is placed after the certificate number, it indicates that the product is subject to the special conditions of use specified in the Schedule to this certificate.
9. 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.
10. The marking of the product shall include the following:



I M2 Ex db I Mb

II 2 G Ex db IIC Gb

II 2 D Ex tb IIIC Db IP66

I M2 Ex eb I Mb

II 2 G Ex eb IIC Gb

Group I marking does not apply to AD-E4 or RD-E4. Ex db marking does not apply to AD-E4, RD-E4 or AE-E.

Certification Officer: _____ **Date:** 22 June 2021
P Moss

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11. Description of Product or Protective System

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 or round 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** 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 db I/IIC Mb/Gb, Ex eb I/IIC Mb/ Gb Ex tb IIIC Db. M16 TO M90 (or equivalent thread forms).

The **AF-U** 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 db I/IIC Mb/Gb, Ex eb I/IIC Mb/ Gb Ex tb IIIC Db. 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 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. The AD-E4 is a hexagon type adaptor. The RD-E4 is a hexagon type reducer. Coded: Ex eb IIC Gb, Ex tb IIIC Db.

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 I/IIC Gb Ex tb IIIC Db IP6X. M16 TO M75 (or equivalent thread forms).

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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 thread form and/or size.
Coded: Ex db I/IIC Mb/Gb, Ex eb 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 or thread forms complying with standard EN 60079-1.

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 (Not for Group I options)
30 % Glass filled Nylon -30°C to +90°C
40% Glass filled Nylon -20°C to +45°C

12. Report Number

Intertek Report: G102174344E Issue: 1 Dated: September 2016, G103326730 Issue 1 dated April 2018, 103717291LHD-001e dated April 2019 and 104039337LHD-001d dated August 2019.

13. Special Conditions of Certification

(a). Special Conditions of Use

- When used in flameproof applications. only one adaptor or reducer is to be used with any single cable entry on the associated equipment. (Only applicable to flameproof applications).
- 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.
- Aluminum variants are not permitted for Group I applications
- At their point of mounting, these devices are suitable for use at the following temperatures dependent on the type of 'o'-ring:

O-ring Service temperature

Material	Service Temperature
None fitted	-60°C to 200°C*
EPDM	-50°C to +100°C
Nitrile	-30°C to +80°C

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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% Glass 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.

Conditions specific to type:

AD-U Adaptors and RD-U Reducers

- When installed in Group I applications, the ADU M12 (M) to M20 (F) adaptors manufactured in brass shall be installed where the risk of impact is low.

AE-E Earth Lead Adaptors and Reducer

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

(b). Conditions of Manufacture - Routine Tests

- None.

14. Essential Health and Safety Requirements (EHSRs)

The relevant Essential Health and Safety Requirements (EHSRs) have been identified and assessed in Intertek Report: 104601581CHE-003 Dated: 24 March 2021.

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15. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
Ex d I&IIC AND Exe I&II ADAPTORS AD-U 1 08/03/16	AD-U	1	08-03-2016
Ex e II CERTIFIED G.F.N ADAPTORS & REDUCERS	AD / RD-E4	2	09-07-2019
Ex e II CERTIFIED EARTH LEAD ADAPTORS	AE-E Adaptor	1	09-03-2016
Ex e II CERTIFIED EARTH LEAD REDUCER	AE-E Reducer	1	09-03-2016
Ex d I&IIC & Ex e I&II F x F ADAPTOR/ REDUCER	AF-U	1	08-03-2016
MALE x MALE ADAPTOR / REDUCER	AM-U	1	08-03-2016
Ex d I&IIC & Exe I &II REDUCERS	RD-U	1	08-03-2016
Exd/ Exe IIC UNIONS	UN-U/ UF-U	1	08-03-2016
FB-FL SERIES UNIONS	FB-FL	1	05-04-2016
Accessories marking specification AD-U, AM-U, AF-U, AD-E4, RD-U, RD-E4, AE-E, UN-U, UF-U, FB, FL	DF 2210033 A	A	19/03/21
Ex accessories Regulatory Instruction	CAP184267	-	As stamped