



(1) **EU-TYPE EXAMINATION CERTIFICATE**
(Translation)

(2) Equipment or Protective Systems Intended for Use in
Potentially Explosive Atmospheres - **Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number:

PTB 15 ATEX 1014 X

Issue: 2

(4) Product: Actuator, type D***-**-* Ex

(5) Manufacturer: Drehmo GmbH

(6) Address: Zum Eichstruck 10, 57482 Wenden, Germany

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

(8) The Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 17 of the Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 Annex II to the Directive.

The examination and test results are recorded in the confidential Test Report PTB Ex 21-10057.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN IEC 60079-0:2018, EN 60079-1:2014+AC:2018, EN IEC 60079-7:2015+A1:2018
EN 60079-11:2012**

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

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:



II 2 G Ex db eb ib IIB, IIC T4, T3 Gb

Konformitätsbewertungsstelle, Sektor Explosionsschutz
On behalf of PTB:

Braunschweig, October 8, 2021

D. Ing. D. Markus
Dr.-Ing. D. Markus
Direktor und Professor



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EU-Type Examination Certificates without signature and official stamp shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by the Physikalisch-Technische Bundesanstalt. In case of dispute, the German text shall prevail.

SCHEDULE

(13)

(14) **EU-Type Examination Certificate Number PTB 15 ATEX 1014 X, Issue:2**

(15) Description of Product

The actuator, type D***-**-* Ex, consists of the following elements:

- Two-part housing for the gear unit, consisting of the housing top and bottom part made from aluminium alloy.
The housing houses the planetary gear unit. The planetary gear unit does not form part of this type approval.
- The housing top part with the cover forms the switching and signalling compartment, which is designed to Increased Safety "eb" type of protection. It is optionally provided with an inspection window and can be fitted with switching and signalling elements, optional heating elements, an optional electronic measuring amplifier or an electronic position transmitter of Intrinsic Safety "ib" type of protection, and terminals for intrinsically safe and non-intrinsically safe circuits. A separate type approval is available for the installed elements.
- Terminal box, flanged to the housing; made from aluminium alloy and designed to Increased Safety "eb" type of protection. It can be fitted with terminals for intrinsically safe and non-intrinsically safe circuits. A separate type approval is available for the installed elements.
- Pot motor, flanged to the housing top part; made from aluminium alloy and designed to Flameproof Enclosure "db" type of protection; type TM1.003/P ; TM2.003/P or TM4.001/P.
- Optional separately certified motors of Flameproof Enclosure "db" or Increased Safety "eb" type of protection.
- For feeding cables into the customer's connection unit, or for closing openings, separately certified screwed cable glands and screwed blind plugs of Increased Safety "eb" type of protection may be used.

Technical data

Rated voltage up to 690 V ¹⁾
 Rated current max. 27 A ²⁾
 Rated cross section max. 16 mm²

¹⁾ Voltage tolerance ±5 %

²⁾ Can be higher when separately certified motors are used

Ingress protection IP64

Ambient temperatures -25 °C to +40 °C

Optional range of ambient temperatures -25 °C to +60 °C ¹⁾

..... -30 °C to +60 °C ^{1)+ 2)}

..... -25 °C to +65 °C ^{1)+ 3)}

..... -40 °C to +40 °C ²⁾

..... -55 °C to +40 °C ²⁾

SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 15 ATEX 1014 X, Issue: 2

- 1) There may be restrictions regarding the operating mode, running torque or operating cycles (see instructions for operation).
- 2) Depending on the installed elements, a heating unit has to be used, so the switching and signalling compartment will be heated to at least -25 °C.
- 3) For use up to +65 °C, the gas group must be downgraded to IIB and the temperature class to T3.

The range of admissible ambient temperatures may be limited by the selected components, or with the data sheet for the electrical rating.

The composition of the protection symbol depends on the types of protection of the components actually used.

Nomenclature

Range of values	D	*	*	*	-	*	-	*		Ex
Position	1	2	3	4	5	6	7	8	9	10

Position	Range of values	Indicates
1	D	DREHMO actuator
2		Multi-turn actuator
	P	Part-turn actuator
3		Actuator for open-close operation, duty type S2
	R	Actuator for modulating operation, duty type S4
4	30 to 2000	Nominal torque in Nm for multi-turn actuators
	30 to 1800	Nominal torque in Nm for part-turn actuators
5	-	Dash
6		W/o valve attachment
	A, AF, B, B1, B2, B3, B3DO, B4, C, D, DO, DOU, DSTO, DSTU, E, EDO	Valve attachment for multi-turn actuators in accordance with EN ISO 5210
	B, V, W, L/D, H, FH, FW	Valve attachment for part-turn actuators in accordance with EN ISO 5211
7	-	Dash
8	5 to 160 (50Hz)	Output speed in rpm (multi-turn actuators)
	6 to 192 (60Hz)	
	8 to 75 (50Hz)	Operating time for 90° in seconds (part-turn actuators)
	6 to 63 (60Hz)	
9		Blank
10	Ex	Explosion-proof actuator

Changes in issue 1

The min. ambient temperature shall be changed to -55 °C.

SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 15 ATEX 1014 X, Issue: 2

Changes in the actual issue 2

In the future the actuator may also be equipped with the brake motor type TB2-Ex.
Additionally a standard update has been carried out.

(16) Test Report PTB Ex21-10057

(17) Specific conditions of use

Repairs on the flameproof joints may only be made in accordance with the manufacturer's structural specifications. Repairs on the basis of the values in tables 1 and 2 of EN 60079-1 are not permitted.

The motors may be connected with suitable cable glands that meet the requirements in EN 60079-1, and for which a separate test certificate has been issued.

Openings that are not used must be closed in compliance with the specifications in EN 60079-1.

The screws used for delimitation of the flameproof enclosure must at least comply with strength class 8.8.

Measures have to be taken to ensure that the equipment can only be started after the temperature at the inside of the device is raised up to -25 °C min.

(18) Essential health and safety requirements

Met by compliance with the aforementioned standards.

Konformitätsbewertungsstelle, Sektor Explosionsschutz
On behalf of PTB:

Braunschweig, October 8, 2021



Dr.-Ing. D. Markus
Direktor und Professor

