



# (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 07 ATEX 1038 X**

**Issue: 01**

(4) Product: Actuator type D\*iM\*\*-\*-\* 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 18-17182.

(9) 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, EN 60079-31:2014**

(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 IIC T4 Gb or Ex db eb IIB T3 Gb**



**II 2 D Ex tb IIIC T130°C Db**

Konformitätsbewertungsstelle, Sektor Explosionsschutz

Braunschweig, January 22, 2018

On behalf of PTB

Dr.-Ing. D. Markus  
Oberregierungsrat



(13)

## SCHEDULE

(14) **EU-Type Examination Certificate Number PTB 07 ATEX 1038 X, Issue: 01**

(15) Description of Product

The actuator, type D\*\*\*\*-\*. Ex, consists of the following components:

- Enclosure accommodating a planetary gear. For part-turn actuators an additional planetary gear "SQ". Optionally mounted valve attachment. The planetary gears and the valve attachment are not form part of this type approval.
- Flange-mounted motor of Flameproof Enclosure "db" type of protection.
- Optionally flange-mounted – separately certified – motor of Flameproof Enclosure "db" type of protection or Increased Safety "eb" type of protection.
- Motor terminal compartment of Increased Safety "eb" type of protection cast to the enclosure, with – separately certified – terminals. It is connected to the motor and the electronics compartment by means of – separately certified – wire bushings.
- An electronics compartment of Flameproof Enclosure "db" type of protection cast to the enclosure, provided with an inspection window.
- A terminal box of Increased Safety "e" type of protection, with – separately certified – terminals.
- Optionally a – separately certified - plug connector type KP, KPH and KES (DEKRA 11 ATEX 0008X) of Increased Safety "e" type of protection.
- Optionally a - separately certified - terminal compartment type KES-Exd in the type of protection flameproof enclosure "d" (DEKRA 11 ATEX 0008X).
- Optionally a - separately certified - plug connector type K.Exe and K.Exd (DEKRA 17 ATEX 0033U) in the types of protection Increased Safety "eb" and Flameproof Enclosure "db".
- Optionally an external control system. The control system may be outside the potentially explosive area (no ex-protection) or in an explosion protected design, inside the potentially explosive area. The electronics compartment of the actuator in the type of protection Flameproof Enclosure will in this case be filled with packing material.

sheet 2/4



# **SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 07 ATEX 1038 X, Issue: 01**

## Technical data

Rated voltage	up to 690 V
Rated current	max. 27 A *)
Rated cross section	max. 16 mm <sup>2</sup>
Ambient temperatures	-25 °C to +40 °C (standard) -30 °C to +40 °C (IIC, T4) -30 °C to +60 °C (IIC, T4) -55 °C to +40 °C (IIC, T4 with heater) -30 °C to +65 °C (IIB, T3)
Ingress protection	IP66 in accordance with EN 60529

\*) may be higher for separately certified motors

The electrical data are based on the connected motor as well as the electric components accommodated in the electronics compartment.

## Nomenclature

D	*	iM*	*	*	-	*	-	*		Ex
1	2	3	4	5	6	7	8	9	10	11

Position	Range of values	Significance
1	D	DREHMO actuator
2		Multi-turn actuator
	P	Part-turn actuator
3	iM	Actuator with i-matic or i-matic C controls
4		Actuator for open-close operation, type of duty S2
	R	Actuator for modulating operation, type of duty S4
5	30 to 2000	Tripping torque in Nm for multi-turn actuator
	75 to 1800	Tripping torque in Nm for part-turn actuator
6	-	Dash
7		Without valve attachment (output drive)
	A, AF, B, B1, B2, B3, B3DO, B4, C, D, DO, DOU, DSTO, DSTU, E, EDO, ...	Valve attachment for multi-turn actuators according to EN ISO 5210
	B, V, W, L/D, H, FH, FW, ...	Valve attachment for part-turn actuators according to EN ISO 5211
8	-	Dash
9	5 to 160 (50Hz)	Output speed in rpm (Multi-turn)
	6 to 192 (60Hz)	
	7 to 75 (50HZ)	Operating time for 90° in seconds (Part-turn)
	6 to 63 (60Hz)	
10		Blank
11	Ex	Explosion-proof actuator

**SCHEDULE TO EU-TYPE EXAMINATION CERTIFICATE PTB 07 ATEX 1038 X, Issue: 01**

1) The actuator type D. iM\* \*\*\*\*-\* \*-\*\*\*-Ex has been tested according to the standards EN 60079-0:2012 + A11:2013, EN 60079-1:2014, EN 60079-7:2015 and EN 60079-31:2014. Therefore the marking is changed to:



II 2 G Ex db eb IIC T4 Gb or Ex db eb IIB T3 Gb



II 2 D Ex tb IIIC T 130 °C Db

2) The nomenclature has been redesigned.

3) The plug connector type K.Exe and type K.Exd (DEKRA 17 ATEX 0033U) can be optionally used.

(16) Test Report PTB Ex18-17182

(17) Specific conditions of use

Repair and overhaul of the flameproof gaps are only allowed according constructive information given from the original manufacturer. A repair according the values given in Table 1 or Table 2 of IEC 60079-1 is not permitted.

Danger due to electrostatic discharge. The actuator must be cleaned with a damp cloth only. Please refer to operation manual.

(18) Essential health and safety requirements

Met by compliance with the aforementioned standards.

According to Article 41 of Directive 2014/34/EU, EC-type examination certificates which have been issued according to Directive 94/9/EC prior to the date of coming into force of Directive 2014/34/EU (April 20, 2016) may be considered as if they were issued already in compliance with Directive 2014/34/EU. By permission of the European Commission supplements to such EC-type examination certificates and new issues of such certificates may continue to hold the original certificate number issued before April 20, 2016.

Konformitätsbewertungsstelle, Sektor Explosionsschutz  
On behalf of PTB:

Braunschweig, January 22, 2018

  
Dr.-Ing. D. Markus  
Oberregierungsrat

