



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

Certificate No.: **IECEx PRE 20.0038X** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2020-08-26

Applicant: **Flowinn (Shanghai) Industrial Co., Ltd.**
Building II, No. 598 Kesheng Road, Nanxiang Town, Jiading District, Shanghai, 201802
China

Equipment: **EMT... Series Multi-turn Electric Actuator**

Optional accessory:

Type of Protection: **Ex db, Ex tb**

Marking: Ex db IIC Tx Gb
Ex tb IIIC Txxx°C Db
See equipment section for complete marking of each model.

Approved for issue on behalf of the IECEx
Certification Body:

Asle Kaastad

Position:

Certification Manager

Signature:
(for printed version)

Date:

2020-08-26

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 or use of this QR Code.



Certificate issued by:

DNV GL Presafe AS
Veritasveien 3
1363 Høvik
Norway





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Manufacturer: **Flowinn (Shanghai) Industrial Co., Ltd.**
Building II, No. 598 Kesheng Road, Nanxiang Town, Jiading District, Shanghai, 201802
China

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 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

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

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 Report:

[NO/PRE/ExTR20.0046/00](#)

Quality Assessment Report:

[NO/PRE/QAR17.0011/01](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The EMT... series electric actuator is composed of the mechanical transmission compartment and three flameproof enclosures including an electric control compartment, a motor compartment and a wiring compartment. The whole product meets the requirements of Ex tb also, and the mechanical transmission compartment is relevant to Ex tb only.

There are four basic sizes of the products, the mechanical transmission compartments and the motor compartments are different according to the sizes, and the electric control compartment is different in the type EMT4... compared to other types.

Each motor winding is equipped with two thermal protectors.

Type designation

See annex.

Electrical Data

See annex.

Ex code

See annex.

Degrees of protection (IP Code)

IP67 (1 m, 30 min)

IP68 (7 m, 72 h) (The equipment of types EMT1..., EMT2..., EMT3... have been separately tested against the requirements of IEC 60529)

Ambient temperature

See table of Ex code

Routine tests

See annex.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- Repairs of the flameproof joints must be made in compliance with the structural specifications provided by the manufacturer. Repairs must not be made on the basis of values specified in tables 3 and 4 of IEC 60079-1.
- The mechanical property class of the fasteners which are relevant to the flameproof joint should be at least A2-70 with min. yield stress 450 MPa.
- Before application, separate IECEx certified Ex db IIC Gb or/and Ex tb IIIC Db IP67 cable gland or plug should be incorporated.
- For group III application of fixed installation, the end user shall follow the guidance in the instruction manual to minimize the risk of electrostatic discharge.
- The products must be operated according to class A duty performance as defined in EN 15714-2.
- Do not replace the battery when an explosive atmosphere is present.

Annex:

[IECEx PRE 20.0038X_issue 0_annex.pdf](#)

Annex to certificate: IECEx PRE 20.0038X Issue 0

Type designation

EMT	<input type="checkbox"/>	-	<input type="checkbox"/>	-	<input type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	-	<input type="checkbox"/>	-	<input type="checkbox"/>	-	<input type="checkbox"/>	-	<input type="checkbox"/>	-	<input type="checkbox"/>
Flange interface: F10A, F10B, F14A, F14B, F16A, F16B, F25A, F25B, F30A, F30B																		
Signal code: T3WCG3, K2.2, K9.4, K10.2, K10.2F																		
Control unit: S, I, Y, B																		
Type of protection: E02																		
Color of enclosure: A2, B, G																		
Voltage code: d: 220 V a.c. 50 Hz single phase e: 380 V a.c. 50 Hz three phases e1: 380 V a.c. 60 Hz three phases N: 460 V a.c. 60 Hz three phases J2: 220 V a.c. 60 Hz three phases																		
Switch type: O, I																		
Output speed: 50Hz: 18, 24, 36, 48, 72, 96, 144, 192 60Hz: 21, 29, 43, 57, 86, 115, 173, 230																		
Series code: 11, 12, 13, 21, 22, 23, 31, 41, 42, 43 EMT: Product code																		

Electrical Data

Rated Voltage:
 220 V a.c. 60 Hz, 380 V a.c. 50 Hz/60Hz, 460 V a.c. 60 Hz (three phases, for product types EMT1..., EMT2..., EMT3..., EMT4...) or
 220 V a.c. 50 Hz single phase (for product types EMT1..., EMT2..., EMT3...)
 Operation Duty:
 S2 15 min (for all product types except EMT4... 50Hz T6 version)
 S2 10 min (only for T6 temperature class of product type EMT4... 50Hz)

Rated output torque:

220 V a.c. 60 Hz, 380 V a.c. 50 Hz/60Hz, 460 V a.c. 60 Hz, three phases

Product type	Output speed (rpm, for 50Hz/60Hz)							
	18/21	24/29	36/43	48/57	72/86	96/115	144/173	192/230
EMT11...	35 Nm	35 Nm	35 Nm	35 Nm	35 Nm	35 Nm	30 Nm	25 Nm
EMT12...	80 Nm	80 Nm	80 Nm	70 Nm	50 Nm	40 Nm	35 Nm	30 Nm
EMT13...	105 Nm	105 Nm	100 Nm	90 Nm	60 Nm	50 Nm	40 Nm	35 Nm
EMT21...	200 Nm	200 Nm	200 Nm	200 Nm	170 Nm	150 Nm	100 Nm	60 Nm
EMT22...	300 Nm	300 Nm	250 Nm	220 Nm	200 Nm	170 Nm	120 Nm	80 Nm
EMT23...	400 Nm	400 Nm	300 Nm	250 Nm	250 Nm	230 Nm	150 Nm	90 Nm
EMT31...	620 Nm	620 Nm	550 Nm	480 Nm	480 Nm	370 Nm	250 Nm	200 Nm
EMT41...	1050 Nm	1050 Nm	850 Nm	700 Nm	700 Nm	550 Nm	420 Nm	250 Nm
EMT42...	1500 Nm	1500 Nm	1300 Nm	1050 Nm	1050 Nm	750 Nm	650 Nm	550 Nm
EMT43...	2050 Nm	2050 Nm	1750 Nm	1400 Nm	1400 Nm	1050 Nm	880 Nm	750 Nm

220 V a.c. 50 Hz, single phase

Product type	Output speed (rpm)					
	18	24	36	48	72	96
EMT11...	60 Nm	60 Nm	50 Nm	50 Nm	35 Nm	35 Nm
EMT12...	-	120 Nm	100 Nm	80 Nm	50 Nm	50 Nm
EMT21...	150 Nm	150 Nm	130 Nm	100 Nm	50 Nm	50 Nm
EMT22...	-	220 Nm	180 Nm	150 Nm	110 Nm	80 Nm
EMT31...	250 Nm	250 Nm	200 Nm	170 Nm	130 Nm	100 Nm

Ex code

220 V a.c. 60 Hz, 380 V a.c. 50 Hz/60Hz, 460 V a.c. 60 Hz, three phases

Product type	Operation Duty	Ex marking	Ambient temperature	Motor
EMT1... EMT2...	S2 15 min	Ex db IIC T4 Gb Ex tb IIIC T130°C Db	-40°C to +60°C	T4 version
EMT3...	S2 15 min	Ex db IIC T6 Gb Ex tb IIIC T80°C Db	-40°C to +60°C	T6 version
EMT4... (50 Hz)	S2 15 min	Ex db IIC T4 Gb Ex tb IIIC T130°C Db	-40°C to +55°C	T4 version
EMT4... (60 Hz)	S2 15 min	Ex db IIC T4 Gb Ex tb IIIC T130°C Db	-40°C to +60°C	T4 version
EMT4... (50 Hz)	S2 10 min	Ex db IIC T6 Gb Ex tb IIIC T80°C Db	-40°C to +50°C	T6 version

220 V a.c. 50 Hz, single phase

Product type	Operation Duty	Ex marking	Ambient temperature	Motor
EMT1... EMT2... EMT3...	S2 15 min	Ex db IIC T4 Gb Ex tb IIIC T130°C Db	-40°C to +60°C	T4 version

Routine tests

- Each unit must be subjected to routine overpressure test of the value as below for at least 10 s according to clause 16 of IEC 60079-1.

No.	Unit	Static Overpressure
1	Wiring compartments of all product types	1.2 MPa
2	Electric control compartment of product type EMT4...	2.2 MPa
3	Electric control compartments of product types EMT1..., EMT2..., EMT3...	1.6 MPa
4	Motor compartment of product types EMT1..., EMT2..., EMT3...	1.6 MPa
5	Motor compartment of product type EMT4...	2 MPa