

**CERTIFICATE OF CONFORMITY**



CU No. RU C-US.ГБ06.B.00515

Series RU No. 0190134

Explosion-proof measuring, control tools and automation devices

**CERTIFICATION BODY**

FGUP VNIIFTRI (EPT Certificate body VNIIFTRI)

Address: Mendeleevo urban locality, Solnechnogorsky district, 141570, Moscow region, Russian Federation

tel./fax: +7 (495) 526-63-03; e-mail: ilvsi@vniiftri.ru

Accreditation certificate No. POCC RU.0001.11ГБ06 issued by the RusAccreditation on April 25, 2013

**APPLICANT**

Emerson LLC

Address: 10 Letnikovskaya str., bld.2, 115114, Moscow, Russia

OGRN-1027739864943; tel.: (495) 981-9811; fax: (495) 981-9810; e-mail: info.ru@emersonprocess.ru

**MANUFACTURER**

Emerson Process Management Valve Automation, Inc. (USA)

Address: 6005 Rogerdale Road, Houston, TX 77072, USA

**PRODUCTS**

Electric actuators EIM/Bettis

Manufacturer's technical documents

batch production

**CU HS CODE** 8501 52 200 9

**MEETS THE REQUIREMENTS OF**

Technical Regulations of the Customs Union TR CU 012/2011

“On safety of the equipment intended for use in explosive environments”

**ISSUED ON THE BASIS OF**

1. Test Report No. 15.1958 dated 03/19/2015 of the EPT Test Laboratory of VNIIFTRI (No. POCC RU.0001.21ИП09 till April 27, 2015)
2. Report on production status analysis results dated 10/17/2014

**ADDITIONAL INFORMATION**

Storage conditions and life, service life — in accordance with the manufacturer's operating instruction. The Certificate is valid with the Annex on the form No. 0200342 and Ex-annex on four sheets.

Certification scheme 1c.

**VALID FROM** 04/01/2015 **TO** 03/31/2020 **INCLUSIVE**

**SEAL HERE**

**Head (authorized person) of the Certification Body**

**Expert (auditing expert) (experts (auditing experts))**

signature

G.Ye. Yepikhina

(initials, surname)

signature

N.Yu. Miroshnikova

(initials, surname)

**ANNEX**

**TO THE CERTIFICATE OF CONFORMITY CU No. RU C-US.ГБ06.B.00515**

Series RU No. 0200342

**Products identification information**

Certificate of Conformity applies to the electric actuators EIM/Bettis of the following series: TEC2000, M2CP/2000, TEC2/500, MPA. The electric actuators include motor, mechanical and electrical compartments, RDM unit. The electric actuators are featured with display module and data recording method. Electric actuator series-dependent ex-marking is shown in Table 1.

Table 1

Series of electrical actuators EIM/Bettis	Ex-marking
TEC2000	1ExdIIBT4 or 1ExdIIBT4/H <sub>2</sub>
M2CP/2000	
TEC2/500	
MPA	
RDM unit included in the electric actuators	1ExdIIBT6/H <sub>2</sub>

**Explosion protection**

With regard to explosion protection the electric actuators EIM/Bettis meet the requirements of TR CU 012/2011, GOST 30852.0-2002 (IEC 60079-0:1998), GOST 30852.1-2002 (IEC 60079-11:1998).

**Conditions of use**

Electric actuators possible explosive areas of use, categories and groups of explosive mixtures of gases and vapors with the air — in accordance with the requirements of GOST 30852.9-2002 (IEC 60079-10:1995), GOST 30852.5-2002 (IEC 60079-4:1975) and “Electrical installation regulations” (PUE, sec. 7.3).

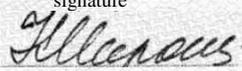
The electric actuators must be operated with certified cable entries and plugs which ensure the required type and level of explosion protection and shell protection degree.

**SEAL HERE**

**Head (authorized person) of the Certification Body**

**Expert (auditing expert) (experts (auditing experts))**

  
signature

  
signature

G. Ye. Yepikhina  
(initials, surname)

N. Yu. Miroshnikova  
(initials, surname)

Seal: Russian Federation Moscow region Solnechnogorsky district  
Federal State Unitary Enterprise OGRN (Primary State Registration Number) 1035008854341  
All-Russian Research Institute of Physical, Technical and Radio Measurements  
VNIIFTRI

<p style="text-align: center;">FGUP VNIIFTRI</p> <p style="text-align: center;">Certification center of explosion-proof measuring, control tools and automation devices CC of EPT VNIIFTRI</p> <p>Accreditation certificate of Certification body No. POCC RU.0001.11ГБ06 dated 04/25/13 Accreditation certificate of Test Laboratory No. POCC RU.0001.21ИП09 dated 04/25/13 Mendeleevo urban locality, 141570, Moscow region, tel./fax +7(495)526-6303</p>		
	Total sheets — 4	Sheet 1/4

## Ex-ANNEX

to the Certificate of Conformity **CU No. RU C-US.ГБ06.B.00515**

Valid **from 04/01/2015 to 03/31/2020**

### 1 Electric actuators EIM/Bettis

Russian classification OK code 005 (OKP) 37 9110  
CU HS Code 8501 52 200 9

### 2 Manufacturer

**Emerson Process Management Valve Automation, Inc. (USA)**  
6005 Rogerdale Road, Houston, TX 77072, USA  
(Corporate headquarters)  
The electric actuator manufacturers are shown in item 5, Table 2

### 3 Ex-marking

see item 5, Table 1

### 4 Conditions of use

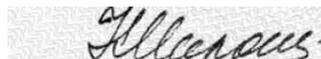
- 4.1 The electrical actuators EIM/Bettis should be used in accordance with the assigned Ex-marking, requirements of TR CU 012/2011, GOST 30852.13-2002 (IEC 60079-14:1996), applicable “Electrical installation regulations” (PUE, sec. 7.3), “Rules of technical operation of consumer’s electrical installations” (PTEEP, sec. 3.4), other regulatory documents governing the use of electrical equipment in explosive areas and manufacturer’s operating instructions.
- 4.2 Electric actuators possible explosive areas of use, categories and groups of explosive mixtures of gases and vapors with the air — in accordance with the requirements of GOST 30852.9-2002 (IEC 60079-10:1995), GOST 30852.5-2002 (IEC 60079-4:1975) and “Electrical installation regulations” (PUE, sec. 7.3).
- 4.3 The electric actuators must be operated with certified cable entries and plugs which ensure the required type and level of explosion protection and shell protection degree.
- 4.4 Any explosion protection-related modifications of the electric actuators design must be approved by an accredited testing organization.

Head of the EPT Certification body VNIIFTRI



G.Ye. Yepikhina

Expert



N.Yu. Miroshnikova

**5 Product structure, version and specification**

Certificate of Conformity applies to the electric actuators EIM/Bettis of the following series: TEC2000, M2CP/2000, TEC2/500, MPA. The electric actuators include motor, mechanical and electrical compartments, RDM unit. The electric actuators are featured with display module and data recording method. Electric actuators series-dependent ex-marking is shown in Table 1.

Table 1

Series of electrical actuators EIM/Bettis	Ex-marking
TEC2000	1ExdIIBT4 or 1ExdIIBT4/H <sub>2</sub>
M2CP/2000	
TEC2/500	
MPA	
RDM unit included in the electric actuators	1ExdIIBT6/H <sub>2</sub>

The electric actuator manufacturers are shown in Table 2

Table 2

Manufacturer	Address
Emerson Process Management Valve Actuation LLC (USA)	13840 Pike Road Missouri City Texas 77489 , USA
EI-O-Matic B.V. (Netherlands)	P.O. Box 223M Asveldweg 11 7556 BR Hengelo, Netherlands

Electric actuators specification — in accordance with the manufacturer’s technical documents.

**6 Purpose and application**

The electric actuators are intended to remotely and manually operate pipeline valves of different design and features.

The electric actuators are explosion-proof electrical equipment of Group II per GOST 30852.0-2002 and are intended for use in explosive areas in accordance with the Ex-marking assigned.

**7 Basic technical data**

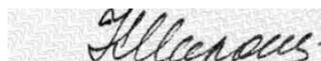
- 7.1 Explosive mixtures per GOST 30852.5-2002 ..... category IIA, IIB and hydrogen Groups T1...T4/T6
- 7.2 Explosion protection type .....explosion-proof shell
- 7.3 Ex-marking ..... see Table 1
- 7.4 Shell protection degree per GOST 14254-96..... IP68
- 7.5 Electric shock protection per GOST 12.2.007.0-75.....class I
- 7.6 The electric actuators power supply parameters are determined when placing an order in accordance with the manufacturer’s technical documents.
- 7.7 Ambient temperature:
  - standard version, °C ..... from -20 to +60
  - low temperature version, °C ..... from -60 to +70
- 7.8 Dimensions, mm ..... in accordance with the manufacturer’s technical documents
- 7.9 Weight, kg ..... in accordance with the manufacturer’s technical documents

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## 8 Description of design and explosion protection means

8.1 The electric actuators design consists of three flange-interconnected parts: actuator motor, mechanical and electrical compartments. The mechanical compartment is made of ductile iron and consists of a driving gear, control lever and handwheel to manually operate pipeline valves in case of the actuator malfunction or power outage. The actuator mechanical compartment has no electrical parts.

The motor power supply is single- or three-phase, AC or DC, electrical circuits are thermal protection-equipped. The motor cylindrical housing is made of steel with press-fitted side parts made of aluminum alloy. The motor is attached to the mechanical and electrical compartments with eight steel bolts which design and size ensure reliable joining.

The electrical compartment is made of aluminum alloy, brass or ductile iron and consists of a housing and a hinged cover firmly bolted to each other. Four steel bolts are used to attach the actuator electrical compartment housing to the motor and four bolts — to attach it to the mechanical compartment.

Stainless steel buttons connected to the panel with the help of treaded joints, closed with external outlet caps, manual multi-position switches and brass housing-built-in lenses shaping LEDs light are placed on the electrical compartment hinged cover control panel. Viewing window glass framed with mounting plate-positioned dial scale is attached to the hinged cover with the help of epoxy adhesive on the inside, and with the help of steel gaskets-provided SS bolts on the outside.

The actuator electrical compartment housing is equipped with an external terminal stud for connection to the grounding conductor.

An explosion-proof RDM is connected to electrical actuators.

8.2 The electrical actuators explosion protection is ensured as follows. The actuators electrical components are enclosed in the explosion-proof shells capable of withstanding the pressure of an explosion and preventing fire from entering into the surrounding explosive environment.

The shells explosion resistance and explosion-proof capability, parameters of explosion-proof joints comply with the requirements of GOST 30852.1-2002 to the IIB or IIB subgroups of electrical equipment and hydrogen.

Viewing glass windows withstand the test provided by GOST 30852.0-2002 and are mounted in such a way as to form a fixed joint with the shell wall. The maximum surface heating temperature in the determined operating conditions does not exceed the allowable value for the respective temperature class per GOST 30852.0-2002.

The electric actuators housing and individual parts design and materials are made considering the general requirements of GOST 30852.0-2002 for electrical equipment placed in explosive areas. The structural components seals and joints ensure IP68 protection per GOST 14254-96. Friction intrinsic safety is ensured by the characteristics of the selected structural materials.

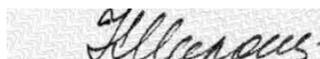
8.3 Ex-marking plate and warning notice are placed on the actuators electrical compartment housing.

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Expert



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## 9 Tests information

The results of the design check and electric actuators tests for explosion protection compliance with the requirements of GOST 30852.0-2002 (IEC 60079-0:1998), GOST 30852.1-2002 (IEC 60079-1:1998) are given in the Test Report of the EPT Test Laboratory of VNIIFTRI No. 15.1958 dated 03/19/2015.

The electric actuators operational documents contain necessary instructions concerning installation conditions and safe operation.

## 10 Ex-marking

Considering the results of the technical and operational documents and manufacturer's ex-marking examination, design checks and tests for explosion protection and in accordance with the requirements of TR CU 012/2011, GOST 30852.0-2002 (IEC 60079-0:1998), GOST 30852.1-2002 (IEC 60079-11:1998) the electric actuators EIM/Bettis are assigned Ex-marking as specified in Table 1.

**The Ex-marking applied to the equipment and specified in the manufacturer's technical documents must contain a special explosion protection symbol in accordance with Annex 2 of TR CU 012/2011 "On safety of the equipment intended for use in explosive environments".**

## 11 List of the documents containing information about explosion protection

### 11.1 Operating instructions

series 500	E2K-420-0714
series 2000/M2CP	E2K-402-0313
series TEC2000	E2K-405-0703
series TEC2	E2K-420-0714
series MPA	MPA-400-0313
11.2 EC-Type examination certificate	Sira 03ATEX1424
11.3 EC-Type examination certificate	Sira 03ATEX1510
11.4 Assessment Report	R23083A, R25091 A/00
11.5 Test Report of the EPT Test Laboratory of VNIIFTRI No. 15.1958	

Head of the EPT Certification body VNIIFTRI  
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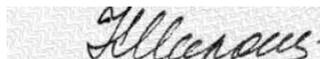
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