

EAC

CUSTOMS UNION CERTIFICATE OF CONFORMITY

No. TC RU C-US.ГБ08.B.00635
Series RU No. 0239674

CERTIFICATION BODY FOR EXPLOSION-PROOF EQUIPMENT CJSC TEST CENTER FOR TECHNICAL MEASUREMENTS, SAFETY AND RESEARCH (EPECC TIBER CJSC), accreditation certificate No. ROSS RU.0001.11ГБ08 valid from 06/15/2011 to 06/15/2016, issued by the Federal Agency on Technical Regulation and Metrology. Address: 75 Friedrich Engels St., Bldg 11, Office 204, Moscow, 105082, Russia (legal address); 1 Gornospasatelnaya St., Bldg A, Donskoy, Tula Oblast, 301760, Russia (physical address). Tel./Fax: (48746) 5-59-53, e-mail: pmv@tiber.ru , http://www.tiber.ru

APPLICANT Emerson Limited Liability Company, PSRN 1027739864943.
Address: 10 Letnikovskaya St., Bldg 2, Moscow, 115114, Russia.
Phone: +74959819811 Fax: +74959819810

MANUFACTURER TopWorx Incorporated
3300 Fern Valley Road, Louisville, Kentucky 40213, USA
Phone: +1 502 969 8000, Fax: +1 502 969 5911.

A list of product manufacturers covered by the certificate form No. 0156140

PRODUCT

Valve position controllers models DXP, DXS, DXR, TXP, TXS, TVL, TVH, and TVF
Serial production.

FOREIGN ECONOMIC ACTIVITY COMMODITY NOMENCLATURE OF THE CUSTOMS UNION CODE 8537 10 910 9

CONFORMS TO REQUIREMENTS Of the Technical Regulations of the Customs Union
Technical Regulations of the Customs Union “On safety of equipment intended for use in explosive atmospheres” (TR TC 012/2011);
GOST R IEC 60079-0-2011,
GOST IEC 60079-1-2011,
GOST R IEC 60079-11-2010,
GOST R IEC 60079-31-2010

CERTIFICATE IS ISSUED ON THE BASIS OF Test report No. 492/547-Ex dated 07/31/2014, EPETL TIBER CJSC , registration No. ROSS RU.0001.21ГБ08 valid from 06/15/2011.
Address: 1 Gornospasatelnaya St., Bldg A, Donskoy, Tula Oblast, 301760, Russia;
report No. 546/ASP on the analysis of the manufacturer’s production status, dated 08/05/2014.

ADDITIONAL INFORMATION Conformance evaluation (validation) scheme – 1c
Certificate is only valid if accompanied by the Appendix (Form No. 0156354, 0156355, and 0156356)

VALID FROM 11/11/2014 TO 11/10/2019, BOTH DATES INCLUSIVE

[Stamp: For Certificates EPECC TIBER CJSC, ROSS RU.0001.11ГБ08 [illegible] [Stamp Here]]	Head (Authorized person) of Certification Body	<i>[signature]</i> signature	<u>D.S. Podsevalov</u> (initials, last name)
	Expert (expert auditor) (Experts (expert auditors))	<i>[signature]</i> signature	<u>M.V. Ponomarev</u> (initials, last name)

CUSTOMS UNION APPENDIX

TO CERTIFICATE OF CONFORMITY No. TC RU C-US.ГБ08.B.00635

Series RU No.0156354

1. Purpose and scope of application.

Valve position controllers DXP, DXS, DXR, TXP, TXS, TVL, TVH, TVF are designed to control and provide position feedback of an actuator/combination of valves.

The controllers are intended for use in hazardous areas in accordance with the assigned explosion-proof mark.

2. Description of construction and means providing explosion protection.

The controllers comprises an electronic unit housed in the enclosure; the enclosure material is shown in Table 1. The electronic unit contains 1 or 2 piezoelectric sensors and an additional position sensor (potentiometer). The shaft assembly that crosses the base of the enclosure is connected to either a potentiometer (which provides information on the position of the connected actuator of the valve) or a disc with metal contacts fitted to activate the limit switches mounted around the shaft, or a combination of both. A visual indicator is located on the top of the enclosure and is mechanically connected to the shaft assembly inside to provide an indication of the position of the actuator/valve. External connections to the equipment are made using screw terminals.

Table 1

Type	Material
DXP	Cover: Aluminum
TXP	Enclosure: Aluminum
TVL	Indicator/dome: Lexan (polycarbonate resin)
DXS	Cover: Stainless Steel
TXS	Enclosure: Stainless Steel
TVH	Indicator/dome: Lexan (polycarbonate resin)
DXR	Lexan (polycarbonate resin)
TVF	Cover: Lexan (polycarbonate resin) Enclosure: Aluminum

3. Special conditions for use (if the explosion-proofing mark includes the letter X)

Enclosures made of aluminum must be protected from direct impact in order to avoid friction sparks.

The parts and enclosures made of Lexan (polycarbonate resin) must be protected from direct impact because they have low-impact strength.

Exd version

DXP, DXS

3.1. The IIC enclosures are excluded from use in carbon disulfide atmosphere.

3.2. During installation, the air pressure in the valve unit should not exceed 10.0 bar.

3.3. At ambient temperatures higher than 110°C, the level of protection of IP66 and IP67 enclosures may be impaired.

TXP, TXS

3.4. Screwed end connections must be replaced only with original ones supplied by the manufacturer.

3.5. Tightening to a torque value of 10.85 Nm.

Exia version

3.6. Connection only to the circuits that meet the requirements of the GOST R IEC 60079-11-2010.

3.7. The devices (sensors) must be certified. 4-20 mA switches and various additional assemblies (switches, sensors, and valves) shall be treated as separate intrinsically safe circuits.

4. Marking.

The marking affixed on equipment labeling must include the following information:

- 1) manufacturer name or its registered trademark;
- 2) equipment type;
- 3) serial number;
- 4) number of the Certificate Of Conformity;
- 5) explosion-proof mark and combustible dust ignition protection mark

**Head (Authorized person) of
Certification Body**

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Series RU No.0156355

- DXP, DXS**
- 1 Ex d IIB+H₂ T6 Gb or 1 Ex d IIC T6 Gb at an ambient temperature, °C minus 60 ≤ T_a ≤ +60
 - 1 Ex d IIB+ H₂ T5 Gb or 1 Ex d IIC T6 Gb at an ambient temperature, °C minus 60 ≤ T_a ≤ +75
 - 1 Ex d IIB+ H₂ T4 Gb or 1 Ex d IIC T6 Gb at an ambient temperature, °C minus 60 ≤ T_a ≤ +110
 - 1 Ex d IIB+ H₂ T3 Gb or 1 Ex d IIC T6 Gb at an ambient temperature, °C minus 60 ≤ T_a ≤ +175
 - Ex tb IIIC T85°C Db at an ambient temperature, °C minus 50 ≤ T_a ≤ +60
 - Ex tb IIIC T100°C Db at an ambient temperature, °C minus 50 ≤ T_a ≤ +75
 - Ex tb IIIC T135°C Db at an ambient temperature °C minus 50 ≤ T_a ≤ +110
 - 0 Ex ia IIC T4 Ga X at an ambient temperature, °C minus 50 ≤ T_a ≤ +55

during installation of a distributor (switch) of the D2-FF type

- 1 Ex ib IIC T4 Gb at an ambient temperature, °C minus 20 ≤ T_a ≤ +50
- Ex tb IIIC T80°C Db at an ambient temperature, °C minus 20 ≤ T_a ≤ +50

DXR

- 0 Ex ia IIC T4 Ga X at an ambient temperature, °C minus 50 ≤ T_a ≤ +55
- Ex tb IIIC T70°C Db at an ambient temperature, °C minus 50 ≤ T_a ≤ +55;

during installation of a distributor (switch) of the D2-FF type

- 1 Ex ib IIC T4 Gb at an ambient temperature, °C minus 20 ≤ T_a ≤ +50
- Ex tb IIIC T80°C Db at an ambient temperature, °C minus 20 ≤ T_a ≤ +50

TXP, TXS

- 1 Ex d IIB T4 Gb or 1 Ex d IIC T4 Gb at an ambient temperature, °C minus 60 ≤ T_a ≤ +80
- 0 Ex ia IIC T4 Ga X at an ambient temperature, °C minus 50 ≤ T_a ≤ +80
- Ex tb IIIC T135°C Db at an ambient temperature, °C minus 50 ≤ T_a ≤ +80;

TVL, TVH

- 0 Ex ia IIC T4 Ga X at an ambient temperature, °C minus 50 ≤ T_a ≤ +80
- Ex tb IIIC T135°C Db at an ambient temperature, °C minus 50 ≤ T_a ≤ +80;

TVF

- 0 Ex ia IIC T4 Ga X at an ambient temperature °C, minus 50 ≤ T_a ≤ +80

6) special Explosion Safety Mark specified by TR TC 012/2011 (Appendix 2).

5. Basic technical data.

5.1. Level of protection according to GOST 14254

DXP, DXS, DXR, TXP, TXS, TVF not less than IP66/IP67

TVL, TVH not less than IP66/IP68

5.2. Exd version

DXP, DXS		TXP, TXS	
U, V	I, A	U, V	I, A
no to exceed 240	max 15	max 250	max 15

5.3. Exia version

U _i , V	I _i , mA	P _i , W	C _i , nF	L _i , μH
28	100	0.7	14	2.06
Or				
30	250	-	not significant	not significant

5.4 Parameters of D2-FF type distributor (switch)

	U _i , V	I _i , mA	P _i , W	C _i , nF	L _i , μH
Connector J1 terminals 1 to 3	30	380	1.5	5	10
FISCO	17.5	380	5.32	5	10

When the manufacturer makes changes, which affect the explosive safety criteria for the equipment, to the construction and (or) technical documentation validating the conformance of the equipment and (or) Ex-component to the requirements of TR TC 012/2011, the manufacturer must provide to the EPECC TIBER CJSC a description of the changes, technical documentation (drawings of means providing explosion protection) with included changes, and a sample for the additional testing if the EPECC TIBER CJSC will find that the examination of the amended technical documentation alone is not sufficient enough to make a decision on the conformity of the equipment and (or) Ex-component with the changes made to the requirements of TR TC 012/2011.

**Head (Authorized person) of
Certification Body**

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**CUSTOMS UNION
APPENDIX**

TO CERTIFICATE OF CONFORMITY No. TC RU C-US.ГБ08.B.00635
Series RU No.0156356

List of the product manufacturers covered by the Certificate of Conformity

Full name of the manufacturer	Address (location)
TopWorx Incorporated	3300 Fern Valley Road, Louisville, Kentucky 40213, USA
Emerson Machinery Equipment (Shenzhen) Co. Ltd.	Fisher Controls Division, Bao Heng Technology Industry Park, North Hong Lang 2nd Road, District 68, Bao'an District, Shenzhen 518101, China
Emerson Process Management Magyarország Kft.	Fisher Controls International LLC., H-8001, Szekesfehervar Berenyi U 72-100, Hungary

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