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 SIR 06.0054X**

Status: **Current**

Issue No: 16

Date of Issue: 2025-02-18

Applicant: **TopWorx Inc.**
3300 Fern Valley Road
Louisville, Kentucky, KY 40213
United States of America

Equipment: **TXP and TXS Mechanical Switches**

Optional accessory:

Type of Protection: **Flameproof "db" and Dust "tb"**

Marking: **Types TXP and TXS without solenoid**

Ex db IIC T6 / T5 / T4 Gb,
Ta = -65°C to +40°C / +60°C / +80°C
Ex tb IIIC T85 °C / T100 °C / T135°C Db,
Ta = -50°C to +40°C / +60°C / +80°C

Types TXP and TXS with solenoid

Ex db IIB T6 / T5 / T4 Gb,
Ta = -65°C to +40°C /+60°C / +80°C
Ex tb IIIC T85 °C / T100 °C / T135 °C Db,
Ta = -50°C to +40°C /+60°C /+80°C

Certificate history:

Issue 15 (2024-09-24)
Issue 14 (2024-01-31)
Issue 13 (2021-05-19)
Issue 12 (2020-07-27)
Issue 11 (2019-03-07)
Issue 10 (2018-12-17)
Issue 9 (2017-08-22)
Issue 8 (2017-03-17)
Issue 7 (2013-12-20)
Issue 6 (2013-05-28)

Approved for issue on behalf of the IECEx Certification Body: **Michelle Halliwell**

Position: **Senior Director of Operations**

Signature:
(for printed version)

Date:
(for printed version)

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:

CSA Group Testing UK Ltd
Unit 6, Hawarden Industrial Park
Hawarden, Deeside CH5 3US
United Kingdom

IECEx Certificate of Conformity

Manufacturer:
TopWorx Inc
3300 Fern Valley Road
Louisville
Kentucky
KY 40213
United States of America

Manufacturing locations:

TopWorx Inc
3300 Fern Valley Road
Louisville
Kentucky
KY 40213
United States of America

Emerson Automation Fluid Control & Pneumatics Poland Sp. z o. o. (Emerson AFCP Poland Sp. z o.o.)
Kurczaki 132
Lodz 93-331
Poland

Emerson Machinery Equipment (Shenzhen) Co. Ltd
101 Building 2, COFCO Park
Honglang North 2nd Road
Xin'an Street
Bao'an District
Shenzhen 518101
China

See following pages for more 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 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-1:2014 Edition:7.0	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31:2013 Edition:2	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"

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 Reports:

GB/SIR/ExTR06.0196/00
GB/SIR/ExTR09.0146/00
GB/SIR/ExTR11.0263/00
GB/SIR/ExTR11.0298/00
GB/SIR/ExTR12.0117/00
GB/SIR/ExTR13.0061/00
GB/SIR/ExTR13.0334/00
GB/SIR/ExTR17.0052/00
GB/SIR/ExTR17.0171/00
GB/SIR/ExTR18.0237/00
GB/SIR/ExTR19.0053/00
GB/SIR/ExTR20.0136/00
GB/SIR/ExTR21.0088/00
GB/SIR/ExTR24.0024/00
GB/SIR/ExTR24.0102/00
GB/SIR/ExTR25.0016/00

Quality Assessment Reports:

BR/ULBR/QAR17.0001/05
GB/BAS/QAR06.0020/12
GB/SIR/QAR07.0025/12
GB/SIR/QAR07.0041/11
NL/DEK/QAR11.0004/08

IECEx Certificate of Conformity

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The Type TXP and TXS Limit Switch Enclosure is intended to indicate the position of a valve or actuator to which it is connected. The equipment comprises a rectangular enclosure manufactured from die cast aluminium (or Stainless Steel for Type TXS) with the cover being fixed to the body via four M5 x 20 hexagon socket-head fasteners. The body contains up to four limit switches, which make and break via a rotating armature connected to the operating shaft. The operating shaft passes through a bronze bushing and the position of the valve or actuator to which it is connected is transferred. There are up to four M20 x 1.5 cable entry points, with a maximum of one per side, via which electrical connection to external circuitry is made. The Type TXS Solenoid Switches are similar to the Type TXP Limit Switch Enclosure but are fitted with a pilot operated solenoid valve.

The enclosure fasteners are stainless steel M8x1.25 – 6H, reduced shank A2-70 grade fasteners.

When marked for dust, the enclosures have an IP66/IP67 rating.

The TXP and TXS switch enclosures may contain ‘GO’ switches, a pilot-operated solenoid valve, and/or a 1 kΩ potentiometer. Additionally, the TXP and TXS switch enclosures may incorporate a breathing/venting device.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The slotted hexagonal head cover screws are not of standard form; they shall only be replaced with identical screws sourced from the equipment manufacturer.
2. The hexagonal head cover screws are to be replaced only with stainless steel A2-70 or A4-80 screws to ISO 35061.
3. Cover fasteners are to be tightened to a torque value of 10.85 Nm (8ft/lbs) minimum.
4. Any TXP enclosure base with an ISO 228 G1/2 conduit entry shall not be used in hazardous locations.

IECEx Certificate of Conformity

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
This issue, Issue 15 recognises the following changes; refer to the certificate annex to view a comprehensive history:

1. Add drawing CERT-ES-09863-1 rev. AA, which contains an alternate TXP enclosure base.

IECEx Certificate of Conformity

Additional manufacturing locations:

ASCO Valve (Shanghai) Co. Ltd
No 480 Xin Miao, No 3 Road, Xin Qiao Town,
Song Jiang District, Shanghai 201612,
China

ASCOVAL INDUSTRIA E COMERCIO LTDA
Rua Goiatuba 81 Jardim Mutinga
06465-010 Barueri – SP – Brasil
Brazil

Annex:

IECEx SIR 06.0054X Issue 16 Annexe_1.pdf

Full Certificate change history

Issue 1 – this Issue introduced the following changes:

1 Topworx were recognised to have ownership the of the intellectual rights of these products.
2. The addition of an alternative manufacturing site in Shenzhen China was recognised.
3. The equipment was allowed to be used in the presence of combustible dust.
4. The ambient temperature range (-50°C to +40°C) is increased to -50°C to +80°C, the temperature class is raised to T4 as a result of this change.
5. The recognition of minor drawing modifications; these changes relate to the securing arrangements and are not detrimental to explosion safety.
6. The condition of manufacture has been clarified.

Issue 2 – this Issue introduced the following change:

1. This Issue of the certificate shows that the ExCB responsible for the QAR has been changed.

Issue 3 – this Issue introduced the following change:

1. To permit the metal enclosures to be given an IP66/IP67 ingress protection rating.

Issue 4 – this Issue introduced the following changes:

1. The enclosure has been modified in order to make it more robust.

Issue 5 – this Issue introduced the following changes:

1. Following appropriate assessment, IEC 60079-0:2004 Ed. 4, IEC 60079-1:2003 Ed. 5, IEC 61241-0: 2004 Ed. 1 and IEC 61241-1:2004 Ed.1, were replaced with those currently listed, the marking was amended accordingly.
2. The ambient temperature range has been extended to -60°C for category 2G only.
3. The requirement for routine overpressure testing has been removed for enclosures suitable for a -50°C ambient temperature limit, in addition, a routine overpressure testing requirement for enclosures suitable for -60°C was added.

Issue 6 – this Issue introduced the following change:

1. The introduction of an alternative manufacturing location, Emerson Process Management Magyarorszag Kft., Fisher Controls International LLC., H-8001 Szekesfehervar Berenyi U, 72-100, Hungary, was recognised

Issue 7 – this Issue introduced the following changes:

1. The removal of routine overpressure testing on model variants with stainless steel housings was endorsed.
2. Clarification of the special fastener head, on drawing numbers ES-03002-1 and ES-00238-1, was approved.
3. The recognition of minor drawing modifications; the leading edge of the bushing from 0.5 mm x 30° to 1.0 mm x 10° to aid assembly, these amendments are administrative or involve changes to the design that do not affect the aspects of the product that are relevant to explosion safety.
4. The introduction of Issue 7, as a result of the assessment, Conditions of Certification were introduced and therefore an 'X' suffix was added to the certificate number

Issue 8 – this Issue introduced the following changes:

1. To permit a reduction in lower ambient temperature of TXP and TXS mechanical switches from -60°C to -65°C for configurations with/without solenoid valve, and for use in gas atmospheres only (not dust atmospheres).
2. The reintroduction of an ambient temperature range option of -50°C to +40°C, allowing a temperature class of T6 for both gas and dust atmospheres.
3. To permit the removal of the routine overpressure test currently mandatory for aluminium enclosures (26 bar @-60°C) in the conditions of manufacture.
4. Modification to drawing no. ES-02478-1, revision of NPT Threads ANSI/ASME B1.20.1**-2013** rather than ANSI/ASME B1.20.1-1993.
5. Rationalisation of modified drawings that were highlighted/made by the manufacturer, including two additional schedule drawing no. ES-01524-1 and CERT-ES-06068-1

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.

6. Recognition of the pilot solenoid switch into the label drawing no. CERT-ES-01609-1, associated with the IIB gas group. This option is specified as option 'n' on this drawing, and the switch is rated at 24VDC, 110VAC and 220VAC
7. Introduction of drawing no. CERT-ES-06068-1, which provides a summary of the flame paths associated with the enclosures, which are unchanged from previous assessments
8. The introduction of an alternative material for the operating shaft, drawing no. CERT-ES-01457-1.
9. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-1:2007 Ed.6 and IEC 60079-31:2008 Ed.1 were replaced by IEC 60079-1:2014 Ed.7 and IEC 60079-31:2013 Ed.2, the markings were updated accordingly to recognise the new standards.

Issue 9 – this Issue introduced the following changes:

1. The introduction of the 36-series GO Switch, associated with new sensing options Q2/Q4 and G2/G4
2. A change of manufacturing locations address' as follows:

Hungary

From	**To**
Emerson Process Management Magyarorszag Kft., Fisher Controls International LLC, H-8001 Szekesfehervar Berenyi U, 72-100,Hungary	**Emerson Process Management Magyarorszag Kft.,** Fisher Controls International LLC, Holland Fasor 6, Szekesfehervar,

China

From	**To**
Emerson Machinery Equipment (Shenzhen) Co. Ltd., Fisher Controls Division, Bao Heng Technology Industry Park, North Hong Long 2nd Road, District 68, Boan District, Shenzhen 51810, China	**Emerson Machinery Equipment (Shenzhen) Co. Ltd.,** Bao Heng Technology Industry Park, Liu Xian 1st Road, District 68, Bao'an District, Shenzhen, China 518101

Issue 10 – this Issue introduced the following change:

1. The introduction of the Series 36SD Switch, associated with new sensing options D2/D4 and S2/S4.

Issue 11 – this Issue introduced the following changes:

1. The change of manufacturing location;

From	**To**
Emerson Process Management Magyarorszag Kft., Fisher Controls International LLC, H-8001 Székesfehérveár, Berenyi U, 72-100, Hungary	**ASCO Numatics Sp.z o.o.** Kurczaki 132 93 331 Lodz Poland

Issue 12 – this Issue introduced the following changes:

1. Drawing CERT-ES-01609-1 and CERT-ES-01607-01 were updated to Rev. 16. This was to add optional ambient temperature of 60°C which determines a T5 Temperature Class for gas and T100C for dust, as a result the marking was updated accordingly.
2. Added clarification "Device construction for IIC rating, does not allow for integral solenoid/valve to be fitted" to drawing CERT-ES-01607-1.
3. Updated Instructions manual drawing ES-01856-1 to rev.19.

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.

4. Name of Manufacturing location in Poland updated:

From	**To**
ASCO Numatics Sp.z o.o.	Emerson Automation Fluid Control & Pneumatics Poland Sp. Z o.o. (Emerson AFCP Poland Sp. Z o.o.).

Issue 13 – this Issue introduced the following change:

1. The address of the manufacturing location in Shenzhen was updated as was the related QAR.
   Emerson Machinery Equipment (Shenzhen) Co. Ltd
   101 Building 2, COFCO Park
   Honglang North 2nd Road
   Xin'an Street
   Bao'an District
   Shenzhen
   518101
   China

Issue 14 – this Issue introduced the following change:

1. The introduction of the following manufacturing locations:

ASCO Valve (Shanghai) Co., Ltd., No.480 Xin Miao, No.3 Road Xin Qiao Town, Song Jiang District, Shanghai 201612, China	Ascoval Indústria e Comércio Ltda, Rua Goiatuba, 81 Jardim Mutinga 06465-010 Barueri - SP Brasil Brazil	TopWorx Inc., 3300 Fern Valley Road, Louisville, Kentucky 40213, United States of America

Issue 15 – this Issue introduced the following change:

1. Upgrade standard IEC 60079-0:2011 to IEC 60079-0:2017/COR1:2020.
2. Modify the Product Description to clarify and update details of the TXP/TXS switch enclosure.
3. Update the revision of select drawings.
4. Modify the Specific Conditions of Use to ensure that any TXP enclosure base with an ISO 228 G1/2 conduit entry is not used in hazardous locations.

Issue 16 – this Issue introduced the following change:

1. Add drawing CERT-ES-09863-1 rev. AA, which contains an alternate TXP enclosure base.

CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.