



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx SIR 06.0054X

Issue No: 9

Certificate history:

Status: **Current**

Issue No. 9 (2017-08-22)

Issue No. 8 (2017-03-17)

Date of Issue: **2017-08-22**

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Issue No. 7 (2013-12-20)

Issue No. 6 (2013-05-28)

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

Issue No. 5 (2012-12-17)

Issue No. 4 (2012-05-30)

Issue No. 3 (2012-03-23)

Issue No. 2 (2011-10-19)

Issue No. 1 (2009-10-14)

Issue No. 0 (2007-01-30)

Equipment: **TXP and TXS Mechanical Switches**

Optional accessory:

Type of Protection: **Flameproof and Dust**

Marking:

Limit Switch Enclosure
Types TXP and TXS without solenoid
Ex db IIC T6/T4 Gb, Ta = -65°C to +40°C/+80°C
Ex tb IIIC T85°C/T135°C Db
Ta = -50°C to +40°C/+80°C
Solenoid Switch T
types TXP and TXS with solenoid
Ex db IIB T6/T4 Gb, Ta = -65°C to +40°C/+80°C
Ex tb IIIC T85°C/T135°C Db,
Ta = -50°C to +40°C/+80°C

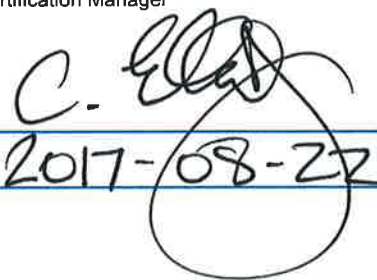
Approved for issue on behalf of the IECEx
Certification Body:

C Ellaby

Position:

Deputy Certification Manager

Signature:
(for printed version)



Date:

2017-08-22

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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

SIRA Certification Service
CSA Group
Unit 6, Hawarden Industrial Park
Hawarden, Deeside, CH5 3US
United Kingdom

sira
CERTIFICATION





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

Additional Manufacturing location(s):

Emerson Process Management Magyarorszag Kft.,
Fisher Controls International LLC,
Holland Fasor 6,
Szekesfehervar,
8000
Hungary

Emerson Machinery Equipment (Shenzhen) Co. Ltd.,
Bao Heng Technology Industry Park,
Liu Xian 1st Road,
District 68,
Bao'an District,
Shenzhen,
518101
China

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 electrical apparatus 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 : 2011 Edition:6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-1 : 2014-06 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 electrical 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:

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

Quality Assessment Report:

GB/BAS/QAR06.0020/02	GB/BAS/QAR13.0005/00	GB/SIR/QAR07.0025/04
US/UL/QAR06.0009/00		



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

The Type TXP 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 with the cover being fixed to the body via four M5 x 20 hexagon socket-head fasteners. The body contains two, single pole, double throw, 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 one, two or three 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.

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.



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EQUIPMENT (continued):

Design Options

- The cable entry points may have the threadform ½" x 14 NPT.
- The Type TXP Limit Switch Enclosure may contain up to four limit switches and a 1 KΩ potentiometer in varying combinations.
- The Type TXP and TXS may be fitted with a venting/breathing device.
- The Type TXP and Type TXS may be fitted with 'Go' Switches.
- The Types TXP and TXS may be manufactured from stainless steel to become Types TXP-S/S and TXS-S/S respectively.
- The Type TXP and Type TXP-S/S may have their switches replaced by two Pepperl & Fuchs Type NJ2-SN 8 V dc 3 mA proximity sensors to become Types TXP-1 and TXP-1-S/S respectively.
- The Types TXP, TXP-S/S, TXS and TXS-S/S may be fitted with the following Bus Network Cards introducing the following suffix:

Designations

Suffix	Card Type
A	ASI
B	Profibus DP
C	Profibus PA
D	Foundation Fieldbus
E	Position Transmitter
F	Devicenet
G	Modbus



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

The changes associated with this change are:

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

Hungarian location:

From: Emerson Process Management Magyarország Kft., Fisher Controls International LLC, H-8001 Szekesfehervar Berenyi U, 72-100, Hungary.

To: Emerson Process Management Magyarország Kft., Fisher Controls International LLC, Holland Faszor 6, Szekesfehervar, Hungary 8000.

Chinese Location: From: 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.

To: Emerson Machinery Equipment (Shenzhen) Co. Ltd., Bao Heng Technology Industry Park, Liu Xian 1st Road, District 68, Bao'an District, Shenzhen, China 518101.

Refer to the annexe for the full certificate change history

Annex:

[IECEX SIR 06.0054X Issue 9 Annexe.pdf](#)

Annexe to: IECEx SIR 06.0054X Issue 9
Applicant: Topworx Inc.
Apparatus: Limit Switch Enclosure Types TXP and TXS



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.
To permit the removal of the routine overpressure test currently mandatory for aluminium enclosures (26 bar @-60°C) in the conditions of manufacture.

Date: 22 August 2017

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Form 9530 Issue 1

Sira Certification Service

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Hawarden, CH5 3US, United Kingdom

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Web: www.csagroupuk.org

Annexe to: IECEx SIR 06.0054X Issue 9
Applicant: Topworx Inc.
Apparatus: Limit Switch Enclosure Types TXP and TXS



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
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

Emerson Process Management
Magyarország Kft.,
Fisher Controls International LLC,
H-8001 Szekesfehervar Berenyi U,
72-100,
Hungary

To

Emerson Process Management
Magyarország Kft.,
Fisher Controls International LLC,
Holland Faszor 6,
Szekesfehervar,

China

From

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

To

Emerson Machinery Equipment
(Shenzhen) Co. Ltd.,
Bao Heng Technology Industry Park,
Liu Xian 1st Road,
District 68,
Bao'an District,
Shenzhen,
China 518101