



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.: **7**

Status: **Current**

Date of Issue: **2013-12-20** Page 1 of 5

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

Certificate history:
Issue No. 7 (2013-12-20)
Issue No. 6 (2013-5-28)
Issue No. 5 (2012-12-17)
Issue No. 4 (2012-5-30)
Issue No. 3 (2012-3-23)
Issue No. 2 (2011-10-19)
Issue No. 1 (2009-10-14)
Issue No. 0 (2007-1-30)

Electrical Apparatus: **TXP and TXS Mechanical Switches**
Optional accessory:

Type of Protection: **Flameproof and Dust**

Marking: **TXP and TXS without solenoid** **TXP and TXS with solenoid**
Ex d IIC T4 Gb Ex d IIB T4 Gb
Ta = -60°C to +80°C Ta = -60°C to +80°C
Ex tb IIIC T135°C Db Ex tb IIIC T135°C Db
Ta = -50°C to +80°C Ta = -50°C to +80°C

Approved for issue on behalf of the IECEx Certification Body: C Ellaby

Position: Deputy Certification Manager

Signature:
(for printed version)

Date:


2013-12-20

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
Rake Lane
Eccleston
Chester
CH4 9JN
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.	Emerson Machinery Equipment (Shenzhen) Co. Ltd
Fisher Controls International LLC. H-8001 Szekesfehervar Berenyi U 72-100 Hungary	Bao Heng Technology Industry Park North Hong Long 2nd Road District 68, Boan 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 : 2007-04 Edition: 6	Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
IEC 60079-31 : 2008 Edition: 1	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/ExTR11.0298/00
GB/SIR/ExTR13.0334/00

GB/SIR/ExTR09.0146/00
GB/SIR/ExTR12.0117/00

GB/SIR/ExTR11.0263/00
GB/SIR/ExTR13.0061/00

Quality Assessment Report:

GB/BAS/QAR06.0020/02
GB/BAS/QAR06.0020/05
GB/SIR/QAR07.0025/05

GB/BAS/QAR06.0020/03
GB/BAS/QAR13.0005/00
US/UL/QAR06.0009/00

GB/BAS/QAR06.0020/04
GB/SIR/QAR07.0025/04



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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.

CONDITIONS OF CERTIFICATION: 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

Condition of Manufacture

The Manufacturer shall comply with the following condition of manufacture:

1. The manufacturer shall conduct a routine overpressure test on each unit to be marked with a -60° C ambient, unless manufacture from stainless steel, at the following pressures; for at least 10 s as required by clause 16.1 of IEC 60079-1:2007. There shall be no permanent damage or deformation to the enclosure.

Gas group IIC	Gas group IIB
26 bar	18.2 bar



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

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