



# 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](http://www.iecex.com)

Certificate No.:	<b>IECEX SIR 07.0093X</b>	Page 1 of 5	<u>Certificate history:</u>
Status:	<b>Current</b>	Issue No: 18	Issue 17 (2023-07-13)
Date of Issue:	2024-01-31		Issue 16 (2023-02-27)
Applicant:	<b>TopWorx Inc.</b> 3300 Fern Valley Road Louisville Kentucky 40213 <b>United States of America</b>		Issue 15 (2021-07-08)
Equipment:	<b>Types DXP and DXS Switchboxes</b>		Issue 14 (2021-05-19)
Optional accessory:			Issue 13 (2020-12-04)
Type of Protection:	<b>Flameproof db and Dust tb</b>		Issue 12 (2020-07-30)
Marking:	Refer to the Annexe		Issue 11 (2020-04-14)
			Issue 10 (2019-03-07)
			Issue 9 (2018-06-12)
			Issue 8 (2014-06-06)

Approved for issue on behalf of the IECEx  
Certification Body:

**Michelle Halliwell**

Position:

**Director Operations, UK & Industrial Europe**

Signature:  
(for printed version)

Date:  
(for printed version)

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United Kingdom





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Manufacturer: **TopWorx Inc.**  
3300 Fern Valley Road  
Louisville  
Kentucky 40233  
**United States of America**

Manufacturing locations: **TopWorx Inc.**  
3300 Fern Valley Road  
Louisville  
Kentucky 40233  
**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 51801  
**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 60079-0:2011](#) Explosive atmospheres - Part 0: General requirements  
Edition:6.0

[IEC 60079-1:2014](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

[IEC 60079-31:2013](#) Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

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/CSAE/ExTR21.0022/00](#)  
[GB/SIR/ExTR11.0263/00](#)  
[GB/SIR/ExTR12.0234/00](#)  
[GB/SIR/ExTR13.0334/00](#)  
[GB/SIR/ExTR19.0053/00](#)  
[GB/SIR/ExTR21.0088/00](#)  
[GB/SIR/ExTR24.0024/00](#)

[GB/SIR/ExTR08.0031/00](#)  
[GB/SIR/ExTR11.0298/00](#)  
[GB/SIR/ExTR12.0317/00](#)  
[GB/SIR/ExTR14.0112/00](#)  
[GB/SIR/ExTR20.0142/00](#)  
[GB/SIR/ExTR23.0052/00](#)

[GB/SIR/ExTR09.0066/00](#)  
[GB/SIR/ExTR12.0194/00](#)  
[GB/SIR/ExTR12.0318/00](#)  
[GB/SIR/ExTR18.0097/00](#)  
[GB/SIR/ExTR20.0214/00](#)  
[GB/SIR/ExTR23.0125/00](#)

#### Quality Assessment Reports:

[BR/ULBR/QAR17.0001/04](#)  
[GB/SIR/QAR07.0041/11](#)

[GB/BAS/QAR06.0020/12](#)  
[NL/DEK/QAR11.0004/07](#)

[GB/SIR/QAR07.0025/11](#)



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## EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Type DXP switchbox comprises a rectangular base and cover manufactured in aluminium. The base and cover has a boss with a bronze sleeve bearing, through which passes the switch shaft. Cams with magnets are attached to the shaft to operate sensors within the enclosure. The enclosure is provided with either a flat flange joint or a serrated joint for gas group IIB+H2 or group IIC applications respectively. The cover securing bolts are Grade A2-70 stainless steel.

The rectangular base and cover can be manufactured from stainless steel to form a Type DXS Switchbox; in this case the cover/base joint is a flat flange only (IIB+H2) and the sleeve bearing is not provided.

The enclosure may contain a combination of switches, a fieldbus module, pilots and terminal strips up to the maximum thermal dissipation of 10 W. The pilots provide feedback to control a pneumatic valve attached to the side of the enclosure.

The switch box is rated up to 240 V, 15 A.

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

Refer to the Annexe for Conditions of Manufacture

## SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The IIC enclosures are excluded from use in carbon disulphide atmospheres.
2. The air pressure to the valve block, when fitted, shall not exceed 10.0 bar.
3. For ambient temperatures above 110°C, the degrees of ingress protection IP66 and IP67 are not endorsed by Sira.
4. The slotted hexagonal head cover screws are not of standard form; they shall only be replaced with identical screws sourced from the equipment manufacturer.
5. The hexagonal head cover screws are to be replaced only with stainless steel A2-70 or A4-80 screws to ISO 35061.
6. Cover fasteners are to be tightened to a torque value of 10.85 Nm (8ft/lbs) minimum.
7. Only suitably certified cable entry devices or conduit shall be used for connections and unused openings shall be blanked off using a suitable IECEx certified plug.
8. Under certain extreme circumstances, the non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. In addition, the equipment shall only be cleaned with a damp cloth.



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## **DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

**This issue, Issue 18 recognises the following changes; refer to the certificate annex to view a comprehensive history:**

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



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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 07.0093X Issue 18 Annexe.pdf](#)



## Certificate Marking

### Markings for Gas

Ex db IIC T6 Gb or Ex db IIB+H2 T6 Gb  
Ta = -60°C to +60°C  
Ex db IIC T5 Gb or Ex db IIB+H2 T5 Gb  
Ta = -60°C to +75°C  
Ex db IIC T4 Gb or Ex db IIB+H2 T4 Gb  
Ta = -60°C to +110°C  
Ex db IIC T3 Gb or Ex db IIB+H2 T3 Gb  
Ta = -60°C to +175°C

### Markings for Dust

Ex tb III C T85°C Db  
Ta = -50°C to +60°C  
Ex tb III C T100°C Db  
Ta = -50°C to +75°C  
Ex tb III C T135°C Db  
Ta = -50°C to +110°C

## Conditions of Manufacture

The Manufacturer shall comply with the following:

- i. 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 60079-1:2014. There shall be no permanent damage or deformation to the enclosure.

Gas group IIC	Gas group IIB+H2
28 bar	19.1 bar

## Full certificate change history

**Issue 1** – this Issue introduced the following change:

- i. To permit the use of the equipment within a combustible dust laden atmosphere in accordance with the requirements of IEC 61241-1:2004 and to update compliance with IEC60079-0:2007.

**Issue 2** – this Issue introduced the following change:

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

**Issue 3** – this Issue introduced the following changes:

- i. To permit the metal enclosures to be given an IP66/IP67 ingress protection rating.
- ii. Following appropriate re-assessment, IEC 61241-1:2004 was replaced by IEC 60079-31:2008.
- iii. The introduction of an optional alternative internal arrangement which is designated the Type FF 2.0 Module.
- iv. Minor drawing modifications.

**Issue 4** – this Issue introduced the following change:

- i. The equipment was permitted to be used in an ambient temperature up to 175°C, the marking is amended accordingly and a condition of certification was added to reflect the change.

**Issue 5** – this Issue introduced the following changes:

- i. The recognition of minor drawing modifications; these amendments, which are fully described in the associated Sira ExTR, are administrative or involve changes to the design that do not affect the aspects of the product that are relevant to explosion safety.
- ii. The external valve block pressure was approved to be increased from 7.0. bar to 10.0 bar, the condition of certification being modified accordingly.

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Applicant: Topworx Inc.

Apparatus: Type DXP and Type DXS Switchboxes



**Issue 6** – this Issue introduced the following changes:

- i. Following appropriate assessment, IEC 60079-0:2007 Ed. 5 was replaced by IEC 60079-0:2011 Ed. 6, the marking was amended accordingly.
- ii. The ambient temperature range has been extended to -60°C for category 2G only.
- iii. 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.
- iv. The DXP can be fitted with the following switch types:

The DXP can be fitted with the following switch types:

SPDT - 250 V ac at 1.5 A	NO Proximity - 250 V ac at 0.2 A	PNP Proximity - 30 V dc at 0.2A
SPDT - 250 V ac at 0.5 A	NO Proximity - 60 V dc at 0.2 A	NC Proximity - 8 V dc at 3 mA
DPDTh - 110 V ac at 6 A		

**Issue 7** – this Issue introduced the following changes:

- i. The removal of routine overpressure testing on model variants with stainless steel housings was endorsed.
- ii. Clarification of the special fastener head, on drawing numbers ES-03002-1 and ES-00238-1, was approved.
- iii. 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.

**Issue 8** – this Issue introduced the following change:

The introduction of two additional manufacturing locations:

Emerson Machinery Equipment (Shenzhen) Co. Ltd.	Emerson Process Management Magyarország Kft.
Fisher Controls Division	Fisher Controls International LLC
Bao Heng Technology Industry Park	H-8001 Székesfehérvár
North Hong Long 2 <sup>nd</sup> Road	Berenyi U
District 68	72-100
Bao'an District	Hungary
Shenzhen 518101	
China	

**Issue 9** – this Issue introduced the following changes:

- i. The introduction of an advanced HART protocol module variant, HART v7 Model ES-04900-1, to be used in various HART module assemblies.
- ii. Following appropriate assessment to demonstrate compliance with updated standards; IEC 60079-1:2007 and IEC 60079-31:2008 were replaced by IEC 60079-1:2014 and IEC 60079-31:2013. The markings and specific conditions of use are updated according to recognise the latest standards.
- iii. Numerous drawing changes have been made.
  - a. Drawing updates to the following scheduled drawings:
    - i. ES-00238-1 revision 12 to 15;
    - ii. S-S01-0006 revision 2 to 4;
    - iii. S-S01-0008 revision 18 to 23;
    - iv. Drawing ES-01141-1 at revision 9 has been replaced rev 12 to include the HART v7 Module ES-04900-1, and updates to the other module assemblies it can be used in;
    - v. The following nameplate drawings have been updated to include revised markings that are required by the standards upgrade: CERT-ES-01148-1; CERT-ES-01149-1; CERT-ES-03278-1; CERT-ES-03279-1; and CERT-ES-03288-1.

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- vi. The following nameplate drawings have become obsolete and removed from the list of scheduled drawings: CERT-ES-03440-1; CERT-ES-03442-1; CERT-ES-03443-1; and CERT-ES-03444-1.
- vii. Drawing S-S01-0007 rev 25 to rev 27 has been updated for various minor changes, detailed in the assessment report.
- viii. Drawing S-S01-0012 rev 22 to rev27 has been updated for various minor changes, detailed in the assessment report.

**Issue 10** – this Issue introduced the following change:

- i. The change of manufacturing location;  
From: Emerson Process Management  
Magyarország Kft.  
Fisher Controls International LLC,  
H-8001 Székesfehérvár,  
Berenyi U, 72-100,  
Hungary  
To: ASCO Numatics Sp.z o.o.  
Kurczaki 132  
93 331 Lodz  
Poland

**Issue 11** – this Issue introduced the following change:

- i. The list of QAR's was updated to reflect the latest editions and obsolete ones were removed.

**Issue 12** - This issue introduced the following change:

- i. The change to the name of the facility in Poland was recognised;  
From: ASCO Numatics Sp. z o.o.  
To: Emerson Automation Fluid Control & Pneumatics Poland Sp. z o.o.

**Issue 13** - This issue introduced the following change:

- i. Addition of an alternative hall effect sensor connected to HART v7, Model ES-04900-1 module certified under IECEx SIR 16.0107U.

**Issue 14** - This issue introduced the following change:

- i. Inclusion of the missing QAR GB/BAS/QAR06.0020/10.

**Issue 15** - This issue introduced the following change:

- i. Addition of an alternate construction of the external indicator
- ii. Manufacturer address change for Shenzhen location

**Issue 16** - This issue introduced the following changes:

- i. Revision to manufacturer drawings. 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.
- ii. Modification to stopping plugs PS-00177-1 to PS-00177-7. Introduction of new stopping plug, PS-00177-8.

**Issue 17** - This issue introduced the following change:

- i. Addition of new variant of aluminium enclosure for Gas Group "IIC" classification.

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i. The introduction of the following manufacturing locations:

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No.480 Xin Miao, No.3 Road Xin  
Qiao Town, Song Jiang District,  
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China

Ascoval Indústria e Comércio Ltda,  
Rua Goiatuba, 81 Jardim Mutinga  
06465-010 Barueri - SP Brasil  
Brazil