



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

Certificate No.: **IECEX SIR 09.0088X** issue No.:3

Status: **Current**

Date of Issue: **2014-06-06** Page 1 of 5

Certificate history:  
Issue No. 3 (2014-6-6)  
Issue No. 2 (2012-9-4)  
Issue No. 1 (2011-6-10)  
Issue No. 0 (2009-12-9)

Applicant: **Topworx Inc**  
3300 Fern Valley Road  
Louisville  
Kentucky  
40213  
United States of America

Electrical Apparatus: **DXR-R\*M\*\*\*\*\* Switchbox**  
Optional accessory:


Type of Protection: **Increased Safety, Encapsulation and Dust**

Marking: **Ex e mb IIC T4 Gb**  
**Ex tb IIIC T66°C Db IP67**  
Ambient Range:  
24 Vdc Asco valve: -20°C to +44°C  
115 Vac/230 Vac Asco valve: -20°C to +37°C

Approved for issue on behalf of the IECEx **A G Boyes**  
Certification Body:

Position: Certification Support Officer

Signature:  
(for printed version)

  
\_\_\_\_\_  
2014-06-06

Date:

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  
40213  
**United States of America**

Additional Manufacturing location(s):

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

<b>IEC 60079-0 : 2007-10</b> Edition: 5	Explosive atmospheres - Part 0: Equipment - General requirements
<b>IEC 60079-18 : 2004</b> Edition: 2.0	Electrical apparatus for explosive gas atmospheres - Part 18: Construction, test and marking of type of protection encapsulation 'm' electrical apparatus
<b>IEC 60079-31 : 2008</b> Edition: 1	Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure 't'
<b>IEC 60079-7 : 2006-07</b> Edition: 4	Explosive atmospheres - Part 7: Equipment protection by increased safety "e"

*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/ExTR09.0183/00  
GB/SIR/ExTR14.0112/00

GB/SIR/ExTR11.0091/00

GB/SIR/ExTR12.0219/00

##### Quality Assessment Report:

GB/BAS/QAR06.0020/05  
GB/SIR/QAR07.0025/03

GB/BAS/QAR13.0005/00  
GB/SIR/QAR07.0025/04

GB/SIR/QAR07.0025/02  
GB/SIR/QAR07.0025/05



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The DXR-\*\*M\*\*\*\*\* Switchbox monitors the position of a valve by providing electrical feedback and optional visual indication. It uses a glass fibre reinforced polyester enclosure that houses the following devices:

One Topworx Cube, either 2-reed or 4-reed - supply: 1 A/125 V maximum.

Two Asco Joucomatic piezo valves (IECEx SIR 06.0109X, BAS98ATEX2168X), which may be one of the following types:

EM5 PVX 30200018: 24 Vdc, 3 W

EM5 PVX 30200017: 115 Vac, 5 W.

EM5 PVX 30200017: 230 Vac, 5 W.

The enclosure comprises an upper and lower housing that is fitted with a metallic or a non-metallic bush. The shaft that passes through these bushes is connected to the driving source in the lower housing and is used to activate the internal equipment, this includes the optional visual indication of the shaft rotational position which is located in the upper housing. The enclosure is provided with moulded threaded bushings for the installation of the internal apparatus, chassis plates etc. and the lower housing can be fitted with metallic or non-metallic hubs that accommodate threaded entries and facilitate the attachment of an air operated valve. The enclosure also has an internal and external earth facility or an earth continuity chassis plate. The cover joint is provided with an "O" ring to maintain the ingress protection of the enclosure

### CONDITIONS OF CERTIFICATION: YES as shown below:

1. The DXR-\*\*M\*\*\*\*\* Switchbox shall only be installed in a location where there is a low risk of mechanical damage.
2. The DXR-\*\*M\*\*\*\*\* Switchbox shall not be used inside liquid fuel metering pumps, dispensers and remote pumping units.
3. The Asco piezo valve shall be connected to a supply protected by a fuse capable of interrupting the prospective short circuit current of that supply.



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## EQUIPMENT(continued):

The Manufacturer shall comply with the following condition of manufacture:

1. The DXR-\*\*M\*\*\*\*\* Switchbox covered by this certificate incorporate previously certified devices, it is therefore the responsibility of the manufacturer to continually monitor the status of the certification associated with these devices, and the manufacturer shall inform Sira of any modifications of the devices that may impinge upon the explosion safety design of their products
2. The finished, manufactured Topworx Cube shall be subjected to a visual inspection in accordance with clause 9.1 of IEC 60079-18:2004. No damage shall be evident, such as cracks in the compound, exposure of the encapsulated parts, flaking, inadmissible shrinkage, swelling, decompression, failure in adhesion or softening
3. An electric strength test in accordance with clause 9.2 of IEC 60079-18:2004 shall be carried out at 1000 V + 2 Un, or 1500 Vac, whichever is the greater, for 60 seconds on the encapsulated Topworx Cube. Alternatively, if this test voltage is multiplied by 1.2 times, it may be applied for at least 100 ms. The voltage shall be applied between the circuits joined together and the outer enclosure wrapped in aluminium foil



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

Issue 1 – this Issue introduced the following changes:			
1	The IP64 on the DXR (resin) enclosures was replaced with IP67.		
2	Following appropriate re-assessment, IEC 61241-1:2004 Ed 1 was replaced by IEC 60079-31:2008 Ed 1.		
3	The list of supporting standards was corrected.		
Issue 2 – this Issue introduced the following change:			
1	The introduction of two additional manufacturing locations: <table border="1"><tbody><tr><td>Emerson Machinery Equipment (Shenzhen) Co. Ltd. Fisher Controls Division Bao Heng Technology Industry Park North Hong Long 2<sup>nd</sup> Road District 68 Bao'an District Shenzhen 518101 China</td><td>Emerson Process Management Magyarország Kft. Fisher Controls International LLC H-8001 Székesfehérvár Berenyi U 72-100 Hungary</td></tr></tbody></table>	Emerson Machinery Equipment (Shenzhen) Co. Ltd. Fisher Controls Division Bao Heng Technology Industry Park North Hong Long 2 <sup>nd</sup> Road District 68 Bao'an District Shenzhen 518101 China	Emerson Process Management Magyarország Kft. Fisher Controls International LLC H-8001 Székesfehérvár Berenyi U 72-100 Hungary
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