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 08.0129X**

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Certificate history:

Status: **Current**

Issue No: 8

Issue 7 (2022-11-03)
Issue 6 (2022-02-18)
Issue 5 (2021-06-22)
Issue 4 (2016-10-07)
Issue 3 (2015-03-05)
Issue 2 (2012-05-31)
Issue 1 (2009-08-27)
Issue 0 (2009-04-01)

Date of Issue: 2024-08-22

Applicant: **Westlock Controls Corporation**
280 North Midland Ave Suite 258, Saddle Brook, NJ, 07663
United States of America

Equipment: **34/8400 Valve Position and 37/8700 Valve Control Monitors**

Optional accessory:

Type of Protection: **Intrinsic Safety "ib", Increased Safety "eb", Encapsulation "mb" and Dust Protection by Enclosure "tb"**

Marking:

Ex eb mb IIC T* Gb (-40°C ≤ Ta ≤ *°C)

Ex eb ib mb IIC T* Gb (-40°C ≤ Ta ≤ *°C)

Ex tb IIIC T*°C Db (-40°C ≤ Ta ≤ *°C)

* The marking depends on the product construction and ambient temperature range e.g. Ex eb ib mb IIC T5 Gb (-40°C ≤ Ta ≤ 50°C) would be a specific marking that is applied to a series code 37*7 or 87*7 Monitor that is fitted with coils and intrinsically safe sensors. The above is therefore a generalisation of the options that may be used; the Annexe of the certificate therefore includes a table that defines the marking that is relevant to each application.

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)

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

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Manufacturer: **Westlock Controls Corporation**
280 North Midland Ave Suite 258, Saddle Brook, NJ, 07663
United States of America

Manufacturing locations:

Westlock Controls Corporation
280 North Midland Ave Suite 258,
Saddle Brook, NJ, 07663
United States of America

Crane Fluid & Gas Systems (Suzhou) Co., Ltd
No.1 RunSheng Road,
ShengPu SIP,
Suzhou, JiangSu
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 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 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-18:2017 Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

IEC 60079-31:2022 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

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/ExTR09.0040/00
GB/SIR/ExTR09.0120/00
GB/SIR/ExTR12.0118/00
GB/SIR/ExTR15.0043/00
GB/SIR/ExTR16.0253/00
GB/SIR/ExTR21.0071/00
GB/SIR/ExTR22.0013/00
GB/SIR/ExTR22.0177/00
GB/SIR/ExTR24.0100/00

Quality Assessment Reports:

GB/FME/QAR22.0001/01
US/FMG/QAR08.0002/13

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

The Valve Position Monitor is used to indicate and/or control the status (OPEN or CLOSED) of a process valve. The enclosures consist of a base and cover and are available in two sizes, enclosures may be constructed of A360 aluminium, AMS 5360-316 stainless steel or a non-metallic Grilamid TR90-UV material. The cover may be flat or fitted with a clear beacon constructed of Eastar DN004 material or Grilamid TR90-UV. Up to five cable/conduit entries may be drilled through the enclosure walls depending on the Valve Position Monitor model. The metallic enclosures provide an external grounding connection near the cable entry points which consists of a spring-style stainless steel screw connection.

Refer to the Annexe for additional information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. WARNING: POTENTIAL ELECTROSTATIC CHARGING HAZARD – Refer to the instructions on how to clean the equipment safely and prevent static charge build-up on the Grilamid enclosure or beacon (when fitted).
2. The maximum dust layer shall be no greater than 5 mm (T5 135°C).
3. Valve Control Monitors fitted with Pneumatrol solenoid coils, certified under certificate number DEMKO 03ATEX132858X, shall have the external electrical supply to the Solenoid protected at the rated current of the solenoid by a device that is suitable for the prospective short circuit currents of 4000 A.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
This issue, Issue 8, recognises the following changes; refer to the certificate annexe to view a comprehensive history:

1. Update drawings SW-10000-LXX, SW-10108-LXX, LB-120801UK, MS-120801UK, MS-120802UK, MS-120803UK, and MS-120804UK.
2. Update QARs for the manufacturing locations
3. Correct typographical errors

Annex:

IECEx SIR 08.0129X Annexe Issue 8_1.pdf

Equipment:

This visual indicator provides symbols or words that indicate the 'open' or 'closed' position or direction of flow; the state of the valve is further visibly enhanced by the use of different background colours for the words or symbols.

Inside the enclosure is a grounding bar, connection terminals and a selection of encapsulated reed switches or encapsulated coils. The grounding bar is constructed of zinc-plated mild steel and has two spring-style, screw connections. The cable connection terminal strip is one of the following Ex eb certified component:

Manufacturer	Part Number	Certification Code	Certificates
Weidmüller	AKZ/AKE	Ex eb IIC	IECEx TUR 18.0024U TÜV 18 ATEX 8221 U

Westlock 3400 Valve Position Monitor and 3700 Valve Control Monitor

The Westlock 3400 Valve Position Monitor and 3700 Valve Control Monitor use the smaller enclosure that consists of a base and cover fitted together with four hexagon-head stainless steel screws that are mounted in the corners of the enclosure cover. The Grilamid cover mounting threads are stainless steel inserted directly into the enclosure base at each of the four corners. There is a gasket fitted in the cover to allow for an ingress protection level of IP66/7. The enclosure may be fitted with up to three cable/conduit entries for the model 3400 or up to two cable/conduit entries for the model 3700. The enclosures may be configured with:

3400 Valve Position Monitor:

- up to four Magnum reed switches

3700 Valve Control Monitor:

- up to three Magnum reed switches plus one Pneumatrol EP000/m/FL/03 series coil
- one Pneumatrol EP000/m/FL/03 series coils and up to two Pepperl & Fuchs NJ2-V3-N Namur sensors

Westlock 8400 Valve Position Monitor and 8700 Valve Control Monitor

The Westlock 8400 Valve Position Monitor and 8700 Valve Control Monitor use the larger enclosure that consists of a base and cover fastened together with six hexagon-head stainless steel screws that are mounted in each of the corners and at the midpoint of the long side of the enclosure. There is a gasket fitted in the cover to allow for an ingress protection level of IP66/7. The enclosure may be fitted with up to five cable/conduit entries for the model 8400 and up to four cable/conduit entries for the model 8700. The enclosures may be configured with:

8400 Valve Position Monitor:

- up to four Magnum reed switches

8700 Valve Control Monitor:

- up to four Magnum reed switches plus up to two Pneumatrol EP000/m/FL/03 series coils

Table identifying the series type and clarifying the basic construction, marking and ambient temperature range that is associated with each, specific series code

Series code	Component parts	Coil type	Marking	Ambient
34*9 84*9	Magnum switches	NA	Ex eb mb IIC T5 Gb Ex eb mb IIC T6 Gb Ex tb IIIC T100°C Db Ex tb IIIC T85°C Db	-40°C ≤ Ta ≤ 60°C -40°C ≤ Ta ≤ 45°C -40°C ≤ Ta ≤ 60°C -40°C ≤ Ta ≤ 45°C
		NA	Ex eb mb IIC T5 Gb	-40°C ≤ Ta ≤ 45°C

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Series code	Component parts	Coil type	Marking	Ambient
	Magnum switches with AKZ/AKE series terminals		Ex eb mb IIC T6 Gb Ex tb IIIC T100°C Db Ex tb IIIC T85°C Db	-40°C ≤ Ta ≤ 40°C -40°C ≤ Ta ≤ 45°C -40°C ≤ Ta ≤ 40°C
37*9 87*9	Magnum switches plus coil	Pneumatrol	Ex eb mb IIC T5 Gb Ex eb mb IIC T6 Gb Ex tb IIIC T100°C Db Ex tb IIIC T85°C Db	-40°C ≤ Ta ≤ 50°C -40°C ≤ Ta ≤ 45°C -40°C ≤ Ta ≤ 50°C -40°C ≤ Ta ≤ 45°C
	Magnum switches plus coil with AKZ/AKE series terminals	Pneumatrol	Ex eb mb IIC T5 Gb Ex eb mb IIC T6 Gb Ex tb IIIC T100°C Db Ex tb IIIC T85°C Db	-40°C ≤ Ta ≤ 45°C -40°C ≤ Ta ≤ 40°C -40°C ≤ Ta ≤ 45°C -40°C ≤ Ta ≤ 40°C
37*7 87*7	Coils and intrinsically safe sensors	Pneumatrol	Ex eb ib mb IIC T5 Gb Ex eb ib mb IIC T6 Gb Ex tb IIIC T100°C Db Ex tb IIIC T85°C Db	-40°C ≤ Ta ≤ 50°C -40°C ≤ Ta ≤ 45°C -40°C ≤ Ta ≤ 50°C -40°C ≤ Ta ≤ 45°C
	Coils and intrinsically safe sensors with AKZ/AKE series terminals	Pneumatrol	Ex eb ib mb IIC T5 Gb Ex eb ib mb IIC T6 Gb Ex tb IIIC T100°C Db Ex tb IIIC T85°C Db	-40°C ≤ Ta ≤ 45°C -40°C ≤ Ta ≤ 40°C -40°C ≤ Ta ≤ 45°C -40°C ≤ Ta ≤ 40°C

Conditions of Manufacture

1. Routine Dielectric strength tests shall be conducted on the Magnum Switches at 2U + 1000 (minimum 1500) Vrms, in accordance with IEC 60079-18 clause 8.2.4.
2. Routine Dielectric strength tests shall be conducted on the Pneumatrol Coils at 2U + 1000 (minimum 1500) Vrms, in accordance with IEC 60079-18 clause 8.2.4.
3. When the Magnum switches are replaced by the Pepperl & Fuchs NJ2-V3-N inductive sensors, only barriers of type 1, 2 or 3 shall be fitted in the Westlock Valve Control Monitors. The Pepperl & Fuchs NJ2-V3-N shall not be connected to a type 4 barrier due to the reduced ambient temperature range.
4. The products 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 CSA of any modifications of the devices that may impinge upon the explosion safety design of their products.
5. This certificate relies on the following previously certified products. The key attributes listed in the table below shall still be maintained by their original certificate.

Product	Certification No.	Key Attributes
AKZ/AKE series terminals	IECEx TUR 18.0024U	Ex eb IIC T6 -50°C to +40°C T5 -50°C to +45°C
EP000/m/FL/03 Pneumatrol (formerly R.G.S) coils	DEMKO 03ATEX132858X	Ex ib IIC T6
NJ2-V3-N Proximity switch	IECEx PTB 11.0021X	Ex ib IIC T6
Type 262-*** Terminal strip	IECEx PTB 04.004U	Ex eb IIC Gb
Type MK 3 Terminal strip	IECEx TUR 18.0019U	Ex eb IIC Gb

6. A visual inspection of the Magnum switch encapsulation is to be completed; no damage such as cracks, exposure of encapsulated parts, flaking, inadmissible shrinkage, swelling, decomposition failure of adhesion or softening shall be evident.

Full Certificate change history

Issue 1 – this Issue introduced the following changes:

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1. The use of an intrinsically safe Pepperl & Fuchs Namur Sensor (NJ2-V3-N, types 1, 2 and 3 only) in place of Magnum switches was permitted for the 3700, the Description of Equipment was modified to recognise this change and to clarify the list of devices that are used in all the product builds.
2. The minimum ambient temperature applicable to Valve Position Control Models 3700 and 8700 was lowered from -20°C to -40°C.

Issue 2 – this Issue introduced the following changes:

1. The introduction of a new re-designed LG2 enclosure for dust protection Group IIIC 'Ex tb' was approved a Condition of Certification was introduced as a result of this change.
2. Models 8700 and 3700 were permitted to use up to three Magnum reed-switches plus up to two Amisco 3009M-series coils.
3. The description was modified to recognise the LG2 enclosure and to correct typographical errors.

Issue 3 – this Issue introduced the following changes:

1. The introduction of a table (see Annexe) which identifies the series type and clarifies the basic construction, marking and ambient temperature range that is associated with each, specific series code. The table also recognises the intrinsically safe marking that was introduced in Issue 1.
2. The slot head screws that secure the optionally fitted beacons were replaced with cap head screws.
3. The introduction of an alternative internal M5 earth screw, along with additional alternative internal & external earth connection locations. (Already used on 87**).
4. The shape and text positioning of the alternative marking labels was revised.
5. The 'high power' MAGNUM reed switch (drawing SW-10000) was replaced with 'high power' MAGNUM reed switch (drawing SW-10000-LXX), this involved minor design and administrative changes.
6. The introduction of an alternative 'low power' MAGNUM reed switch (drawing SW 10108 LXX).
7. The recognition of minor additions and corrections to the existing manufacturer's documentation:
   - Change in beacon height and overall length.
   - Addition of conduit entries table.
   - Addition of drawing stamp.
   - Additions to drawing notes.
   - Amendments to existing drawing notes.

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Issue 4 – this Issue introduced the following changes:

1. The introduction of two alternative certified terminal strips WAGO Type 262-*** and Weidmüller MK 3 Range of Terminal Strips.
2. The UK address at 22 Chapman Way, Tunbridge Wells, Kent TN2 3EF, was removed from the certificate.

Issue 5 – this Issue introduced the following changes:

1. Introduction of Weidmüller AKZ/AKE series "Ex eb" terminals. The Product Description and Conditions of Manufacture, referencing "This certificate relies on the following previously certified products", were revised to include information pertinent to the AKZ/AKE series terminals.
2. Introduction of new ambient temperature de-ratings. In the Annexe, the Table identifying the series type and clarifying the basic construction, marking and ambient temperature range was revised to include ambient temperature de-ratings pertinent to the AKZ/AKE series terminals.
3. Introduction of standard IEC 60079-11.
4. Revised schedule drawings.

Issue 6 – this Issue introduced the following changes:

1. The recognition of an alternative manufacturing location Crane Fluid & Gas Systems (Suzhou) Co., Ltd, No.1 RunSheng Road, ShengPu SIP, JiangSu Province, 215126, China.

Issue 7 – this Issue introduced the following changes:

1. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-0:2007 Edition 5, IEC 60079-11:2006 Edition 5, IEC 60079-18:2004 Edition 2, IEC 60079-31:2008 Edition 1, IEC 60079-7:2006 Edition 4, were replaced by: IEC 60079-0:2017 Edition 7, IEC 60079-11:2011 Edition 6, IEC 60079-18:2014+A1:2017 Ed 4.1, IEC 60079-31:2022 Edition 3 and IEC 60079-7:2017 Edition 5.1.
2. The product description, marking and conditions of manufacture have been updated.
3. The Applicant's and Manufacturer's name for the USA location was updated from 'Westlock Controls' to 'Westlock Controls Corporation'.

Issue 8 – this Issue introduced the following changes:

1. Update drawings SW-10000-LXX, SW-10108-LXX, LB-120801UK, MS-120801UK, MS-120802UK, MS-120803UK, and MS-120804UK.
2. Update QARs for the manufacturing locations
3. Correct typographical errors

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