



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 14.0108X**

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Certificate history:

Status: **Current**

Issue No: 5

[Issue 4 \(2019-03-21\)](#)

[Issue 3 \(2017-11-07\)](#)

[Issue 2 \(2016-10-20\)](#)

[Issue 1 \(2015-07-09\)](#)

[Issue 0 \(2015-02-10\)](#)

Date of Issue: 2020-08-13

Applicant: **Sun Yeh Electrical Ind. Co., Ltd.**
No. 68 Lane 854, Sec. 1, Shatian Road
Dadu District
Taichung City, 43244
Taiwan

Equipment: **LE Series Explosion-Proof Linear Valve Actuators**

Optional accessory:

Type of Protection: **Flameproof and Dust Protection by Enclosure**

Marking: Ex db IIB T4 Gb
Ex tb IIIC T130°C Db
Ta = -30°C to +70°C

Approved for issue on behalf of the IECEx
Certification Body:

N Jones

Position:

Certification Manager

Signature:
(for printed version)

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 www.iecex.com or use of this QR Code.



Certificate issued by:

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





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Date of issue: 2020-08-13

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Manufacturer: **Sun Yeh Electrical Ind. Co., Ltd.**
No. 68 Lane 854, Sec. 1, Shatian Road
Dadu District
Taichung City, 43244
Taiwan

Additional
manufacturing
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 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 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/SIR/ExTR15.0029/00](#)
[GB/SIR/ExTR17.0229/00](#)

[GB/SIR/ExTR15.0197/00](#)
[GB/SIR/ExTR19.0083/00](#)

[GB/SIR/ExTR16.0247/00](#)
[GB/SIR/ExTR20.0108/00](#)

Quality Assessment Report:

[NO/NEM/QAR14.0013/02](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The LE Series Explosion-Proof Linear Valve Actuator comprises a cylindrical aluminium flameproof enclosure, containing a motor and associated electronics which drive a stainless steel linear actuator via a mechanical transmitting unit. A rotating handle may be used to manually drive the mechanical transmitting unit, when the equipment is unpowered, which can be removed from the mechanical circuit to prevent movement of the handle when the motor is driven.

The internal motor winding contains a bimetallic strip for thermal protection, which is set to operate at 125°C. The motor is provided with class F insulation.

The equipment is rated as IP68 (7 metres for 72 hours), which is maintained by O-ring seals in each joint and oil seals in the interface between the main housing and actuator/drive handle shafts.

The flameproof housing features two threaded cable entries, which may be NPT3/4", NPT1/2", M20x1.5 or M25x1.5. Each cable entry is supplied by the manufacturer with a proprietary stainless steel blanking plug which may be replaced by the end user with suitably certified and rated flameproof cable entry devices.

Refer to the Annexe for Model Nomenclature

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. The flamepaths in this equipment are different to the standard dimensions given in IEC 60079-1. If specific flamepath dimensions are required then the manufacturer (OEM) must be contacted.
2. Caution - Use fasteners with yield stress $\geq 700\text{MPa}$.



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Date of issue: 2020-08-13

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Refer to the Annexe

Annex:

[IECEx SIR 14.0108X Annexe Issue 5.pdf](#)

Annexe to: IECEx SIR 14.0108X Issue 5 Annexe
Applicant: Sun Yeh Electrical Ind. Co., Ltd.
Apparatus: LE Series Explosion-Proof Linear Valve Actuators



Model nomenclature:

LE-X1-X2-X3

L – Linear Valve Actuator

E – Explosion Proof

X1 – Thrust (kg): 250 / 500 / 1000 / 2000

X2 – Voltage:

- D24 – 24 VDC
- 24 – 24 VAC
- 100 – 100 VAC
- 120 – 110-120 VAC
- 200 – 200 VAC
- 220 – 220-240 VAC

X3 – Control Method:

- M – Modulating
- F – Floating

Conditions Of Manufacture

- i. Each unit shall withstand an overpressure test according to IEC 60079-1:2007 clause 16, at a pressure no less than those listed below, for a period of at least ten seconds. The test shall be considered as satisfactory if on completion the enclosure has suffered no permanent deformation or damage affecting the type of protection.

For LE 250 and LE-500- - : The static overpressure test is not less than 10 bar.

For LE 1000 and LE-2000- - : The static overpressure test is not less than 11 bar.

Annexe to: IECEx SIR 14.0108X Issue 5 Annexe
Applicant: Sun Yeh Electrical Ind. Co., Ltd.
Apparatus: LE Series Explosion-Proof Linear Valve Actuators



Full Certificate Change History

Issue 1 – this Issue introduced the following change:

1. The company logo was changed on the label drawing.

Issue 2 – this Issue introduced the following changes:

1. The Certificate Holder's address was changed:
No. 81, Lane 355, San Kang Rd.,
Lung Ching Vil.
Lung Ching District
Taichung City, 43444
Taiwan, R.O.C
No. 68 Lane 854, Sec. 1, Shatian Road,
Dadu District,
Taichung City, 43244
Taiwan, R.O.C
2. The introduction of a 'D' Shaped drive to the output shaft.

Issue 3 – this Issue introduced the following changes:

1. To permit all model series linear valve actuators to be fitted with an alternative worm gear shaft. The external face of the shaft is recessed with a female square keyway, enabling the valve actuators to be connected to end user type specific output couplings.
2. Rationalisation of scheduled drawings to remove those that have been replaced, and/or are no longer used to support manufacturing compliance. In addition to the removal of the IP68 rating from being part of the concept of protection coding text string on the product nameplate.
3. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-1:2007 Ed 6 was replaced by IEC 60079-1:2014 Ed 7, the markings were updated accordingly. Inclusive of a reduction of the NPT thread length on the blanking devices.

Issue 4 – this Issue introduced the following changes:

1. The reinforcement of the Top Cover.
2. The introduction of transparent paint on labels.
3. The amendment of NPT threaded Blanking Elements.
4. Following appropriate assessment to demonstrate compliance with the latest technical knowledge, IEC 60079-0:2011 Ed.6 and IEC 60079-1:2014 Ed.7 were replaced by IEC 60079-0:2017 Ed.7 and IEC 60079-1:2014/COR1:2018, the Specific Conditions of Use, the Product Description and the Markings were amended to recognise the new standards.

Issue 5 – this Issue introduced the following changes:

1. Change the type key and related ratings as follows:

Previous	New
110 stands for 110VAC 120 stands for 120VAC	120 stands for 110-120VAC
220 stands for 220VAC 240 stands for 240VAC	220 stands for 220-240VAC

2. Correction of the Applicant's and Manufacturer's Name & Address and introduce separate nameplate drawings for ATEX and IECEx