



EC TYPE-EXAMINATION CERTIFICATE

Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC

Certificate Number: **Sira14ATEX1307X** Issue: **0**

Equipment: **SE Series Explosion-Proof Spring Return Actuators**

Applicant: **Sun Yeh Electrical Ind. Co., Ltd.**

Address: **No. 81, Lane 355, Sankang Rd.
Lungching Vil.
Lungching District,
Taichung City, 43444
Taiwan, R.O.C**

This equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

Sira Certification Service, notified body number 0518 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in the confidential reports listed in Section 14.2.

Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule to this certificate, has been assured by compliance with the following documents:

EN 60079-0:2012

EN 60079-1:2007

EN 60079-31:2014

The above list of documents may detail standards that do not appear on the UKAS Scope of Accreditation, but have been added through Sira's flexible scope of accreditation, which is available on request.

If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

This EC type-examination certificate relates only to the design and construction of the specified equipment. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment.

The marking of the equipment shall include the following:



II 2 GD

Ex d IIB T4 Gb

Ex tb IIIC T130°C Db

Ta = -30°C to +70°C

Project Number 70009100

C Ellaby
Deputy Certification Manager

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Sira Certification Service

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SCHEDULE

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Sira14ATEX1307X

Issue 0

13 DESCRIPTION OF EQUIPMENT

The SE Series Explosion-Proof Spring Return Actuator comprises an aluminium flameproof enclosure, containing a motor and associated electronics which drive a carbon steel transmission shaft 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. Within the flameproof enclosure is a double rack and pinion arrangement driven by the transmission shaft. Each rack is supported by a pair of springs, such that when power to the equipment is lost the actuator will be driven back to its original position.

The flameproof enclosure has a mechanical indicator at the upper end to show the position of the actuator valve which can be viewed through a cemented toughened glass window.

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 transmission/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 flameproof cable entry devices.

Model Nomenclature:

SE-X1-X2-X3-X4-X5

S – Spring Return Actuator

E – Explosion Proof

X1 – Torque (Nm)

X2 – Voltage:

D24 – 24 VDC

110 – 110 VAC

220 – 220 VAC

440 – 440 VAC

24 – 24 VAC

120 – 120 VAC

240 – 240 VAC

100 – 100 VAC

200 – 200 VAC

380 – 380 VAC

X3 – Direction of Rotation:

- CW – Clockwise

- CCW – Counter Clockwise

X4 – Control Method:

- T – Two Position

- M – Modulating

- F – Floating

X5 – Manual Override:

- Y – With Manual Override

N – Without Manual Override

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Issue 0

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Sira Reports and Certificate History

Issue	Date	Report number	Comment
0	05 February 2015	R70009100A	The release of the prime certificate.

15 SPECIAL CONDITIONS FOR SAFE USE (denoted by X after the certificate number)

- 15.1 The manufacturer recommends that any cable entry device used must maintain the IP rating of the enclosure.
- 15.2 The end user must ensure that any cable and cable entry devices used with the equipment are suitable for use at temperatures above 90°C.
- 15.3 The flamepaths in this equipment are different to the standard dimensions given in EN 60079-1. If specific flamepath dimensions are required then the manufacturer (OEM) must be contacted.

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS OF ANNEX II (EHSRs)

The relevant EHSRs that are not addressed by the standards listed in this certificate have been identified and individually assessed in the reports listed in Section 14.2.

17 CONDITIONS OF CERTIFICATION

- 17.1 The use of this certificate is subject to the Regulations Applicable to Holders of Sira Certificates.
- 17.2 Holders of EC type-examination certificates are required to comply with the production control requirements defined in Article 8 of directive 94/9/EC.
- 17.3 Each unit shall withstand an overpressure test according to IEC 60079-1 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 SE-500-□-□-□-□: The static overpressure test is not less than 9 bar.
 - For SE-1300-□-□-□-□: The static overpressure test is not less than 10 bar.
 - For SE-2000 and SE-2600-□-□-□-□: The static overpressure test is not less than 12 bar.

Certificate Annexe

Certificate Number: Sira14ATEX1307X

Equipment: SE Series Explosion-Proof Spring Return Actuators

Applicant: Sun Yeh Electrical Ind. Co., Ltd.



Issue 0

Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
Ex 10075	1 of 3	1	16 Jan 15	Explosion proof spring return actuator
Ex 10075	2 of 3	1	16 Jan 15	Explosion proof spring return actuator
Ex 10075	3 of 3	1	16 Jan 15	Explosion proof spring return actuator
Ex 10076	1 of 3	1	16 Jan 15	Explosion proof spring return actuator
Ex 10076	2 of 3	1	16 Jan 15	Explosion proof spring return actuator
Ex 10076	3 of 3	1	16 Jan 15	Explosion proof spring return actuator
Ex 10077	1 of 3	1	16 Jan 15	Explosion proof spring return actuator
Ex 10077	2 of 3	1	16 Jan 15	Explosion proof spring return actuator
Ex 10077	3 of 3	1	16 Jan 15	Explosion proof spring return actuator
Ex 20210-4	1 of 1	1	16 Jan 15	Main housing (M20)
Ex 20210-3	1 of 1	1	16 Jan 15	Main housing (M25)
Ex 20210-2	1 of 1	1	16 Jan 15	Main housing (NPT ½")
Ex 20210-1	1 of 1	1	16 Jan 15	Main housing (NPT ¾")
Ex 20211	1 of 1	1	16 Jan 15	Top cover
Ex 20229-4	1 of 1	1	16 Jan 15	Main housing (M20)
Ex 20229-3	1 of 1	1	16 Jan 15	Main housing (M25)
Ex 20229-2	1 of 1	1	16 Jan 15	Main housing (NPT ½")
Ex 20229-1	1 of 1	1	16 Jan 15	Main housing (NPT ¾")
Ex 20230	1 of 1	1	16 Jan 15	Top cover
Ex 20231	1 of 1	1	16 Jan 15	Plate
Ex 20246-4	1 of 1	1	16 Jan 15	Main housing (M20)
Ex 20246-3	1 of 1	1	16 Jan 15	Main housing (M25)
Ex 20246-2	1 of 1	1	16 Jan 15	Main housing (NPT ½")
Ex 20246-1	1 of 1	1	16 Jan 15	Main housing (NPT ¾")
Ex 20247	1 of 1	1	16 Jan 15	Top cover
Ex 20248	1 of 1	1	16 Jan 15	Plate
Ex 30512	1 of 1	1	16 Jan 15	Transmission shaft
Ex 30514	1 of 1	1	16 Jan 15	Plate
Ex 30515	1 of 1	1	16 Jan 15	End cap
Ex 30591	1 of 1	1	16 Jan 15	End cap
Ex 30592	1 of 1	1	16 Jan 15	Buffer fixed plate
Ex 30593	1 of 1	1	16 Jan 15	End cap
Ex 30594	1 of 1	1	16 Jan 15	Transmission shaft
Ex 30619	1 of 1	1	16 Jan 15	End cap
Ex 30620	1 of 1	1	16 Jan 15	End cap
Ex 30621	1 of 1	1	16 Jan 15	Transmission shaft
Ex 30640	1 of 1	1	16 Jan 15	Bracket
Ex 40784	1 of 1	1	16 Jan 15	End cap
Ex 40785	1 of 1	1	16 Jan 15	Buffer fixed plate
Ex 40786	1 of 1	1	16 Jan 15	Glass window fixed sheet (iron)
Ex 40787	1 of 1	1	16 Jan 15	Plastics gasket
Ex 40788	1 of 1	1	16 Jan 15	Nameplate
Ex 40789	1 of 1	1	16 Jan 15	Warning label – no manual override
Ex 40790	1 of 1	1	16 Jan 15	PE label for ground
Ex 40804-4	1 of 1	1	16 Jan 15	Ex plug (M20)

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Certificate Annexe

Certificate Number: Sira14ATEX1307X

Equipment: SE Series Explosion-Proof Spring Return Actuators

Applicant: Sun Yeh Electrical Ind. Co., Ltd.



Drawing	Sheets	Rev.	Date (Sira Stamp)	Title
Ex 40804-3	1 of 1	1	16 Jan 15	Ex plug (M25)
Ex 40804-2	1 of 1	1	16 Jan 15	Ex plug (NPT 1/2")
Ex 40804-1	1 of 1	1	16 Jan 15	Ex plug (NPT 3/4")
Ex 40980	1 of 1	1	16 Jan 15	Warning label
Ex 41570	1 of 1	1	16 Jan 15	Glass window

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