EU Type Examination Certificate CML 19ATEX1358X Issue 0

1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

2 Equipment **SOLDO™ SH and SX Series Limit Switch Boxes**

3 Manufacturer **Rotork Instruments Italy srl** **Fairchild Industrial Products Co.**

4 Address
Via Portico 17
24050
Orio al Serio (BG)
Italy

3920 West Point Blvd.
Weinston-Salem
North Carolina 27103
USA

5 The equipment is specified in the description of this certificate and the documents to which it refers.

6 CML B.V., Chamber of Commerce No 6738671, Hoogoorddreef 15, Amsterdam, 1101 BA, The Netherlands, Notified Body Number 2776, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 12.

7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.

8 This EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 apply to the manufacture of the equipment or component and are separately certified.

9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-31:2014

10 The equipment shall be marked with the following:

Type SH Series

II 2GD

Ex db IIB+H_2 T* Gb

Ex tb IIIC T*°C Db

Ta = -20°C to +*°C

Type SX Series

II 2GD

Ex db IIB T*Gb

Ex tb IIIC T*°C Db

Ta = -20°C to +*°C

*The ambient temperature classes and maximum surface temperature for dust depend upon the ambient temperature ranges. See Table in Section 11.

H M Amos MIET
Certification Manager

11 Description

The SOLDO™ SH and SX Series Limit Switch Boxes are flameproof enclosures, which are provided with switches or similar equipment, indicating the position of the shaft. The boxes are additionally provided with a visual position indicator, controlled by an extension of the shaft.

The enclosures are made of aluminium and the two main parts of the enclosure are secured by four M8 hexagon socket fasteners; the two parts form a flanged joint with a recess for the fitting of an O-ring.

The position indicator is situated on a shaft which passes through the enclosure via a bronze bush forming a cylindrical joint in the main body and the cover.

SH Series is intended for use in Gas Group IIB+H_2. The SX Series is intended for use in Gas Group IIB.

The applicable ambient temperature ranges and corresponding Temperature Classes and Maximum Surface Temperatures for Dust are detailed in the Table below:

Ambient Temp. Range	T Class	Maximum Surface Temp. for Dust
-20°C to +60°C	T6	T85°C
-20°C to +75°C	T5	T100°C
-20°C to 105°C	T4	T135°C

The low ambient temperature limit may be -40°C if routine overpressure tested accordingly; refer to Conditions of Certification in Section 13.

Rating:

Max. Voltage: 250 Vac/125 Vdc
Max. Current: 10 A
Max. Power: 10 W

Notes:

- Sira 12ATEX1142X is superseded by this certificate.
- The product covered by Issue 0 of this certificate remains identical to that previously covered by Sira 12ATEX1142X.
- Where Sira 12ATEX1142X is specified in other product certification, or other technical specifications, this certificate reference for the product shall be used in its place; updating of the other product certificate or technical specification is not required.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	04 Oct 2019	R12654A/00	Initial issue

Note: Drawings that describe the equipment or component are listed in the Annex.

13 Conditions of manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

i. Where the product incorporates certified parts or safety critical components the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.

ii. Enclosures marked with a low ambient of -40°C shall be subjected to a routine overpressure test for at least 10 s at a pressure of 13.7 bar, in accordance with EN 60079-1:2014 Clause 16. There shall be no leakage through the enclosure walls or permanent deformation/damage to the enclosure. Enclosures marked with a low ambient limit of -20°C do not require routine overpressure testing.

iii. The power dissipation inside the flameproof enclosure must not exceed 10 W.

14 Specific Conditions of Use (Special Conditions)

The following conditions relate to safe installation and/or use of the equipment.

i. When units are fitted with a non-conducting position indicator, this could potentially generate an ignition-capable level of electrostatic charges under certain extreme conditions. Therefore, these units shall not be installed in a location where they may be subjected to external conditions (such as high-pressure steam) which might cause a build-up of electrostatic charges on the non-conducting surfaces. Additionally, cleaning of the equipment should be done only with a damp cloth.

ii. The flamepaths for the SH and SX Series are the same and all the dimensions of the flamepath joints are detailed below, in some cases, the values differ from the relevant minimum or maximum required by EN 60079-1 Table 2 (for IIB) or Table 3 (for IIB + H_2):

Flamepath description	Type of Joint	Minimum Width *L* (mm)	Maximum Gap i_c (mm)
Enclosure to cover	Flanged	12.5	0.10
Shaft in enclosure	Cylindrical	25	0.079

Gaps shall not be machined to be any larger than the values of i_c, and widths shall not be modified to be any smaller than the values of *L*, shown in the Table above.

Certificate Annex

Certificate Number	CML 19ATEX1358X
Equipment	SOLDO™ SH and SX Series Limit Switch Boxes
Manufacturer	Rotork Instruments Italy srl

The following documents describe the equipment or component defined in this certificate:

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
SD0202060-00	1 of 1	-	04 Oct 2019	Switch box SX SH cover
SD0201065-00	1 of 1	-	04 Oct 2019	Switch box body SX SH
SD0204039-00	1 of 1	-	04 Oct 2019	Stelo corpo box SX SH
SD0204040-00	1 of 1	-	04 Oct 2019	Perno lato coperchio box mod. SX SH
SD0208010-00	1 of 1	-	04 Oct 2019	Screw Box SX SH
SL-0207008-02	1 of 1	02	04 Oct 2019	Guarnizione corpo SX
SR-020719-00	1 of 1	-	04 Oct 2019	O-ring shaft
SD-0211003-09	1 of 1	9-1	04 Oct 2019	SX metal plate IP66-67 ATEX - IECEx certification
SD0211004-07	1 of 1	7-1	04 Oct 2019	SH metal plate IP66-67 ATEX - IECEx certification
SD0250020-01	1 of 1	01	04 Oct 2019	SX-SH assembly view with volume where electrical alive parts are located
SD0201127-00	1 of 1	-	04 Oct 2019	Switch box body SX SH boccola sinterizzata
SD0202088-00	1 of 1	-	04 Oct 2019	Switch box SX SH cover
SD0204180-00	1 of 1	-	04 Oct 2019	Stelo corpo box SX SH
SD0204181-00	1 of 1	-	04 Oct 2019	Perno lato coperchio box mod. SX SH
SD0250047-00	1 of 1	-	04 Oct 2019	SX-SH assembly view with volume where electrical alive parts are located