



[1] **EU-TYPE EXAMINATION CERTIFICATE**

[2] **Equipment intended for use in potentially explosive atmospheres
Directive 2014/34/EU – Annex III**

[3] Certificate Number: **EPT 20 ATEX 3751 X** issue 0

[4] Equipment: **SOLDO™ Limit switch box series
SB (SIB)**

[5] Manufacturer: **ROTORK INSTRUMENTS ITALY S.R.L.**

[6] Address: **Via Portico 17 - 24050 Orio al Serio (BG) - Italy**

[7] This equipment and its accepted variations are specified in the annex to this Certificate.

[8] Eurofins Product Testing Italy S.r.l., Notified Body n. 0477 in accordance with Article 21 of the Directive 2014/34/EU of the European Parliament and of the Council of 26th 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 of the Directive. The examination and test results are recorded in the confidential Report N°EPT.20.REL.02/56379


[9] Compliance with the essential health and safety requirements is assured through the verification of them and by compliance with the standard:

EN IEC 60079-0:2018, EN 60079-11:2012, EN 60079-31:2014

[10] If the sign "X" is placed after the Certificate number, it indicates that the equipment is subject to the special conditions for safe use specified in the annex to this Certificate.

[11] This EU -TYPE EXAMINATION CERTIFICATE relates only to the design, the exam and the tests of the specified equipment.

Further requirements of the Directive 2014/34/EU apply to the manufacture and supply of this equipment. These requirements are not object of this Certificate.

[12] The equipment shall include the sign  and the following strings:

**II 2 GD
Ex ia IIC T6...T4 Gb
Ex ia IIIC T85°C...T95°C Db**

Applies when only already certified switches are included in the equipment

or

**II 2 GD
Ex ia IIC T4 Gb
Ex ia IIIC T95°C Db**

Applies when simple switches are included in the equipment or when EoL monitor resistors are involved

or

**II 2 D
Ex tb IIIC T95°C Db**

Applies when the equipment is powered without intrinsically safe associated apparatus

Place and date of issue:

Torino, 2020-05-25



Dionisio Bucchieri
Dionisio Bucchieri
Directive Responsible

Paolo Trisoglio
Paolo Trisoglio
Managing Director



PRD N° 119B
Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC
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This Certificate has 4 pages and it is reproducible only in its entirety. Conditions of validity are reported below.

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[15] Equipment description

The limit switch box SB (also named SIB) are electrical devices used to indicate the position, for example in valves and actuators, by means of electrical signal and visual indicator. These are mounted on actuator or manual valve with lever or gear.

The enclosure of the equipment is realized in aluminium alloy and can be painted upon customer request. The cable entries are machined according metric ISO 965-1 thread (M20x1.5 or M25x1.5) or NPT thread ($\frac{1}{2}$ " or $\frac{3}{4}$ ").

The limit switch boxes can be mainly configured by the manufacturer with three Ex certified inductive switches or three simple contact SPDT (or 2 x DPDT) electromechanical or reed type.

Configuration with a lower number of switches can be realized. The limit switches are mounted on circuit board or dedicated support plate and are interfaced to the camshaft; this component intervenes mechanically (or electromagnetically) on the switch changing its state.

Some PCBs used in the above mentioned configurations can also include resistors used to draw a small quantity of current from the power supply lines allowing to identify remotely a potential wiring interruption (technique called End of Line monitoring).

When the equipment is marked according to the intrinsically safe requirements it can be powered up only by means of intrinsic safety barriers (associated apparatus).

In this case each switch has to be connected to an individual channel of intrinsic safety barrier and in case of presence of double throw contact (e.g. SPDT and DPDT switch) only one contact at time can be used and then the common connection of two intrinsically safe barriers is forbidden.

The input safety parameters comply with the ones of the certified devices installed inside the limit switch box; when only simple switches are installed these parameters are defined as follows:

Ui: 30 V

Ii: 100 mA

Pi: 750 mW (limited to 650 mW when EoL resistors are involved)

Li \approx 0 uH

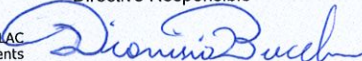
Ci \approx 0 uF

The limit switch boxes can also be powered without intrinsically safe apparatus only for use in Zone 21 and in this case the protection type applied is "tb". In this case the safety related parameters are not involved in the marking and these are substituted by the electrical ratings of the switches internally installed. As option the internal electric components can be protected by casting compound to further increase the resistance to moist. The device complies with IP66 rating according to the requirements of EN 60079-0 and EN 60529. For the intrinsically safe versions when already certified switches are included in the equipment, the ambient temperature range of the equipment is limited to the one indicated by the manufacturer of the switch. For all the equipment configurations the extended ambient temperature range is $-20^{\circ}\text{C} \div +80^{\circ}\text{C}$.


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**Electrical parameters:**Intrinsically safe type of protection:

- Box with simple switches:

Ui: 30 V; li: 100 mA; Pi: 750 mW; Ci \approx 0 μ F; Li \approx 0 μ H

- Box with simple switches and end of line monitoring resistors :

Ui: 30 V; li: 100 mA; Pi: 650 mW; Ci \approx 0 μ F; Li \approx 0 μ H

- Box with already certified switches:

According to the certificate of switches

Dust-tight type of protection:

U: 250 Vac; I: 1 A; P: 2.47 W

Warning label

- Do not open in a gas/dust explosive atmosphere
- Due to risk of static hazard the enclosure must be only cleaned with a damp cloth
- Do not open when energized
- For safety instruction refers to document "2047747" (*this warning applies to intrinsically safe type of protection*)
- For safety instruction refers to document "2047748" (*this warning applies to dust tight type of protection*)
- See instruction for field wiring

Routine tests

None

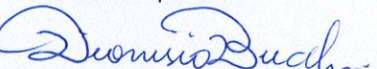
[16] **Assessment Report n° EPT.20.REL.02/56379**

This EU-Type Examination Certificate is released after the positive result of the conformity assessment of the Council Directive 2014/34/EU and to harmonized technical standards listed in this certificate performed by the Notified Body Eurofins Product Testing Italy S.r.l., and reported in the Assessment Report above cited.

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[17] Specific conditions of use

- Each switch involved in the equipment have to be powered only by a single channel of certified intrinsic safety barrier. Where changeover contacts are included in switches, only one contact at time can be used and then no common electrical connection of two intrinsic safety barrier can be achieved.
- When the protection type "ia" is applied, intrinsic safety associated apparatus have to be powered by network circuits limited to overvoltage Category III.
- Potential electrostatic charging hazard – See instructions.

[18] Essential Health and Safety Requirements

Assured by compliance with harmonized standards.

[19] Descriptive documents

The equipment object of this Certificate are described by the following documents that are scheduled documents and therefore they cannot be modified without the explicit authorization of the Notified Body.

Type of document	Document identification	Rev.	Date
Technical note	190206	0	06-02-2019
Datasheet of material and component important for safety and certification	A02	0	20-12-2019
Drawings and schemes	A05	0	20-12-2019
Installation & Operating Manual Intrinsically safe	2047747	0	18-05-2020
Installation & Operating Manual Dust Tight	2047748	0	18-05-2020
Templates of labels	A14	0	18-05-2020
Configurations Chart	A15	0	20-04-2020
Wiring diagram	A16	0	18-05-2020

[20] Terms and conditions

The product liability rests with the Manufacturer, his representative or, in the absence of a representative, with the importer, in accordance with the General Product Safety Directive 2001/95/EC.

The following conditions may render this certificate invalid:

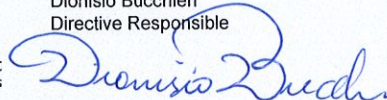
- changes in the design or construction of the product;
- changes or amendments to the Directive;
- changes or amendments in the standards which form the basis for documenting compliance with the essential requirements of the 2014/34/EU Directive.

[21] History

This certificate is at its first issue.


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End of Certificate

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