



[1]

EU-TYPE EXAMINATION CERTIFICATE

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

[3] Certificate Number: **EPT 24 ATEX 5407 X** issue 0

[4] Equipment: **SOLDO™ Proximity switch**
Model BM □□ □ X □ □ - □□

[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.24.REL.03/2113129

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

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

[10] If the sign "X" is placed after the Certificate number, it indicates that the equipment is subjected 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 db IIC T6...T4 Gb

Ex tb IIIC T85°C, T90°C, T95°C Db

Applicable to switch C4 (cable length ≥ 60 mm)

Applicable to switches N1 and N3 (cable length ≥ 240 mm)

The relationships between ambient temperature ranges and temperature limits are reported in the equipment description.

or

II 2 GD

Ex db IIB+H₂ T6...T4 Gb

Ex tb IIIC T85°C, T90°C, T95°C Db

Applicable to switches N1 and N3 (cable

length ≥ 150 mm)

Place and date of issue:

(DD-MM-YYYY)

Torino, 30-05-2024


 Dionisio Bucchieri
 Directive Responsible


 Paolo Trisoglio
 Managing Director



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This Certificate has 5 pages and it is reproducible only in its entirety. Conditions of validity are reported below.





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**EU-TYPE EXAMINATION CERTIFICATE
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[15] Equipment description

The proximity switches series BM Soldo™ (hereinafter referred as BM) are sensors intended to detect the position of a magnetic or ferrous target and are designed to be used in presence of potentially explosive atmospheres requiring equipment with EPL Gb and/or Db having gas group IIC (or IIB+H₂ depending on the cable type and length) and dust group III C respectively.

The BM proximity switch enclosure is obtained by a solid constructed stainless steel body, an entry point machined M20x1.5 or ½" NPT provides access to the integral factory wiring cemented within casting compound; the adhesion of the compound with the inner body surface as well as the wires creates a sealed joint compliant with the requirements of Ex db type of protection.

The configuration featuring the switches N1 and N3 having cable length not less than 150 mm but less than 240 mm are limited to gas group IIB+H₂; the same switches N1 and N3 with wires having exposed length not less than 240 mm as well as the switch C3 with exposed wiring length at least 60 mm are instead suitable for gas group IIC.

On the opposite side of the entry point the body has an externally threaded stem; within this area the device can include a reed contact or alternatively a micro switch coupled to a magnet in order to detect magnetic or ferrous targets respectively; the area where the microswitch is installed has a total free volume not greater than 10 cm³.

The entry point can have internal or external thread connection, in this last case the male connection is achieved by the integration of a nipple (covered by third party certificate); the casting compound of this version is then increased to reduce the amount of free volume in the nipple area; in all configurations the effectiveness of the Ex tb type of protection relies on the coupling of the entry point with a counterpart having thread conforming to the same size, specifications and type of protection.

The configurations having thread specification NPT (both internal and external) and external ISO Metric M20x1.5 specification have degree of protection IP66 according to EN 60529 and EN IEC 60079-0 without the use of additional gaskets or sealing elements; the version with M20x1.5 internal thread entry size has a degree of protection limited to IP6x according to EN 60529 and EN IEC 60079-0.

The equipment configured with external threads are designed to be directly interfaced to Ex db flameproof enclosures showing reference pressure values not greater than 15 bar at the installation point and/or Ex tb dust-tight enclosures; the configurations featuring internal threads are instead intended to be used together with separate fittings (according to the requirements and allowed techniques provided by the standard EN 60079-14).

The extended ambient temperature range of the equipment is $-40^{\circ}\text{C} \leq T_{\text{amb}} \leq +90^{\circ}\text{C}$; the relationships between the maximum ambient temperature and temperature limits are reported below:

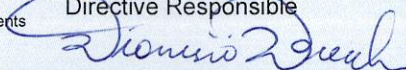
Maximum ambient temperature	Temperature class	Maximum surface temperature
70 °C	T6	T85°C
85 °C	T5	T90°C
90 °C	T4	T95°C



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Warning label

- Do not open in a gas/dust explosive atmosphere
- Due to risk of static hazard the enclosure must be cleaned with a damp cloth

Electrical parameters:

The electrical parameters are related to the switch selected as reported below:

Switch model C4 [SPDT reed switch]

0.25 A @ 120 Vac / 1 A @ 24 Vdc / Max 30 W resistive load

Switch model N1 [SPDT silver plated contact]

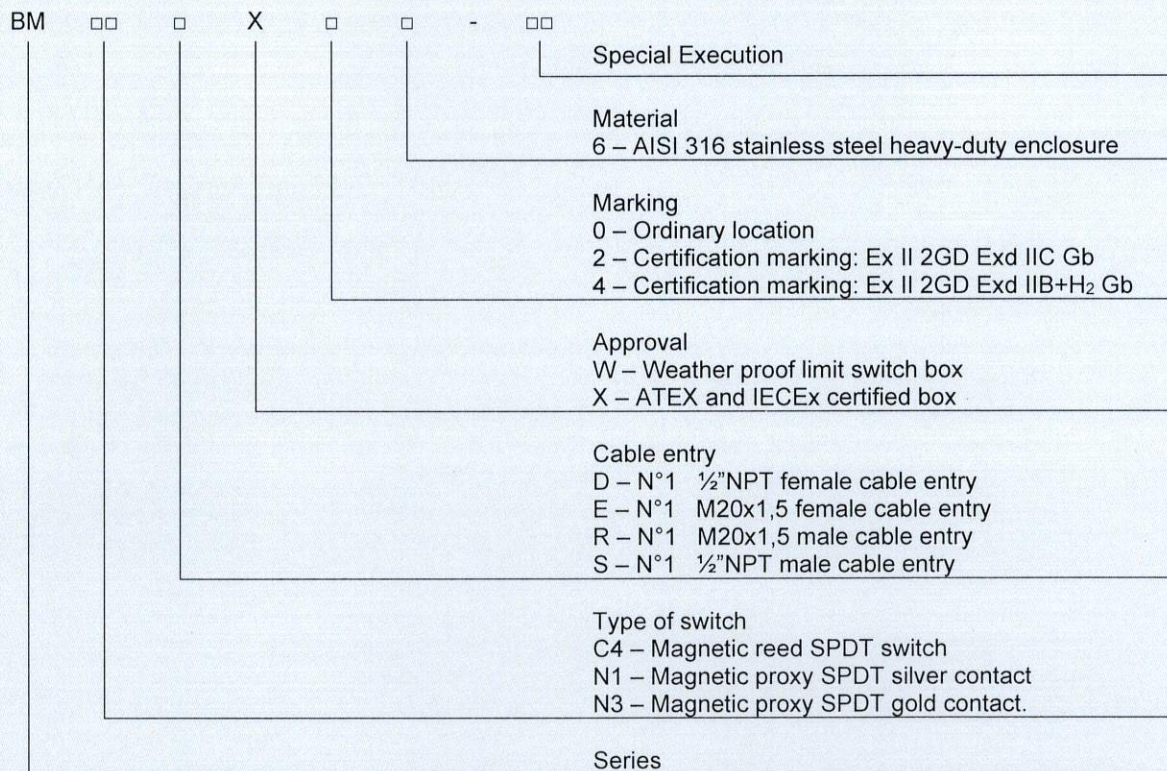
5 A @ 250 Vac / 28 Vdc with resistive load, 4 A @ 250 Vac / 28 Vdc with inductive load

Switch model N3 [SPDT gold plated bifurcated contact]

1 A @ 250 Vac / 30 Vdc with resistive load, 0.5 A @ 250 Vac / 30 Vdc with inductive load

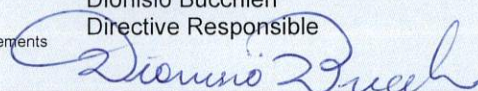
Code designation

Each product is identified on the label by an article code as explained by the coding scheme below:


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Routine tests

None – The equipment has successfully passed the overpressure test required by Clause 15.2.3.2 of the standard EN 60079-1:2014 at a test pressure equal to 60 bar, for this reason it can be considered exempted from the manufacturer’s routine overpressure test detailed in clause 16 of the standard EN 60079-1:2014 as long as the reference pressure of the apparatus where the BM proximity switch is intended to be installed is not higher than 15 bar.

[16] **Assessment Report n° EPT.24.REL.03/2113129**

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.

[17] **Special condition for a safe use**

- Flameproof joints cannot be repaired
- The equipment configured with external threads are designed to be directly interfaced to Ex db flameproof enclosures showing reference pressure values not greater than 15 bar at the installation point.
- In order to guarantee the earth bonding connection, the device must be installed in such a way as to guarantee the electrical contact of the body to earth by means of the mechanical connection of the threaded stem of the device to the structure on which it shall be mounted or by using an equivalent reliable method as long as a minimum contact cross-section of 4 mm² is guaranteed. See the instruction for further details.
- Potential electrostatic charging hazard, see instruction manual for details.

[18] **Essential Health and Safety Requirements**

Assured by compliance with harmonized standards.

[19] **Descriptive documents**

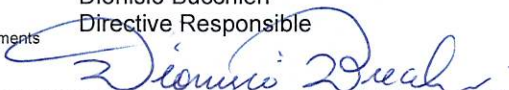
The equipment object of this Certificate are described by the following documents that are scheduled documents and therefore they cannot be modified without the explicit authorization of the Notified Body.

Type of document	Document identification	Rev.	Date
Technical note	211020	0	28-02-2024
Datasheet of material important for safety and certification	A02	0	15-11-2023
Datasheet of component important for safety and certification	A03	1	28-02-2024
Schedule drawings and wiring diagrams	A04	2	09-04-2024
Operating and maintenance manual	DOC-11824	0	05/2024
Labels	A8	3	10-04-2024
Cementing instruction	DOC-11277	0.0	16-04-2024



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[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

Issue	Description	Date
0	First Emission.	30-05-2024



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End of Certificate