



[1]

EU-TYPE EXAMINATION CERTIFICATE

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

 [3] Certificate Number: **EPT 21 ATEX 4617 X issue 0**

 [4] Equipment: **SOLDO™ Proximity switch
BMC41A**

 [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.21.REL.02/2113059


[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 60079-11:2012, 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:

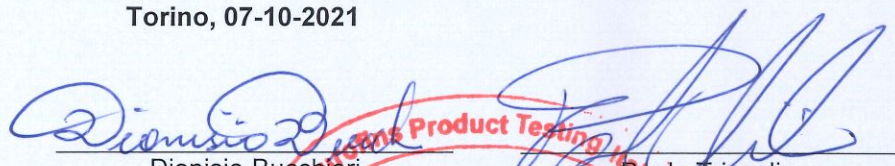
II 1 GD
Ex ia IIC T6...T4 Ga
Ex ia IIIC T₂₀₀85°C...T₂₀₀135°C Da

 or **II 2 D**
Ex tb IIIC T85°C...T135°C Db
-60°C ≤ Tamb ≤ +105°C

Note: The relationships between the maximum ambient temperature and temperature limits are detailed in the equipment description

Place and date of issue:

(DD-MM-YYYY)

Torino, 07-10-2021


 Dionisio Buccheri
 Directive Responsible

 Paolo Trisoglio
 Managing Director


PRD N° 119B

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CP-ATEX-MOD-26-00

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



[13]

ANNEX

[14]

**EU-TYPE EXAMINATION CERTIFICATE
N. EPT 21 ATEX 4617 X issue 0**
[15] Equipment description

The proximity switches BMC41A series are sensors suitable for any industrial field where is necessary to take over the position of a magnetic target.

BMC41A proximity switches are based on a reed detector; the body is realized in stainless steel and a gasket made of silicone is placed between the mating parts to guarantee an ingress of protection IP66 and IP68 (10m 48h) according to the standard EN 60529 and EN IEC 60079-0.

The contact element included in the device consists of a reed detector configured as Single pole Double throw (SPDT) element; the field connection of the device is made possible by the use of a four-contacts terminal block (mounted on a support PCB) pre-wired on one side to the reed contact by a factory wiring. Part of the factory wiring (including the PCB) is protected by casting compound used both for a greater resistance against harsh environmental conditions and for improvement of thermal behaviour of the EOL resistors (when included).

The equipment can be manufactured in the two following main configurations:

- 1) Reed proximity sensor without End Of Line (EOL) monitoring resistors.
- 2) Reed proximity sensor with End Of Line (EOL) monitoring resistors.

The configuration with EOL monitoring resistors, respect to the 1st configuration, additionally features SMD resistors on the PCB where the terminal block for field connection is provided; these resistors are used to draw a small quantity of current from the power supply and then allow to identify remotely a potential wiring interruption.

The internal earth connection is allowed by a dedicated terminal and the external bonding is guaranteed by mounting the equipment on a conductive metallic structure connected to earth. The equipment body is machined with an M20x1.5 threaded hole to allow the field connection; an already certified cable gland having the same IP rating and compatible type of protection shall be used for this purpose.

The equipment can be used in presence of potential explosive atmospheres belonging to gas group IIC in zone 0 or dust group IIIC in zone 20 and have to be powered up by an intrinsically safe barrier.

The equipment can be alternatively marked Ex tb, in this case the device can be used in presence of zone 21 and dust group IIIC without the need of an intrinsically safe associated apparatus.

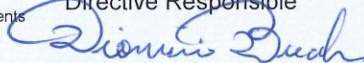
The extended ambient temperature range of the equipment is $-60^{\circ}\text{C} \leq T_{\text{amb}} \leq +105^{\circ}\text{C}$; the relationships between the maximum ambient temperature, temperature limits and types of protections are reported below:

Type of protection	Maximum ambient temperature	Temperature class	Maximum surface temperature
Ex ia	+40°C	T6	T85°C
	+55°C	T5	T100°C
	+105°C	T4	T135°C
Ex tb	+40°C	N / A	T85°C
	+55°C	N / A	T100°C
	+105°C	N / A	T135°C


PRD N° 119B

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CP-ATEX-MOD-26-00

 Page 2 of 5
 07-10-2021

[13]

[14]

ANNEX
EU-TYPE EXAMINATION CERTIFICATE
N. EPT 21 ATEX 4617 X issue 0

**Electrical parameters****Safety related electrical parameters applicable to the intrinsically safe version***Device including End Of Line (EOL) monitoring resistors*

Ui: 30 V, Ii: 100 mA, Pi: 300 mW, Li: ≈0uH, Ci: ≈0uF

Device without End Of Line (EOL) monitoring resistors

Ui: 30 V, Ii: 100 mA, Pi: 750 mW, Li: ≈0uH, Ci: ≈0uF

Power supply parameters applicable to the dust-tight version

Umax: 16 V, Imax: 1 A

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
- Do not open when energized
- See IOM for wiring details

Routine tests

None.

[16] Assessment Report n° EPT.21.REL.02/2113059

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

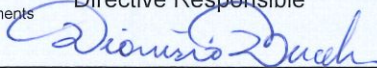
- The proximity switch can be powered up only by a single channel certified intrinsically safe barrier.
- In order to guarantee the earth bonding connection, the device must be installed in such a way as to guarantee the electrical contact of the body to earth by means of the mechanical connection of the M16 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.



PRD N° 119B
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CP-ATEX-MOD-26-00

Dionisio Bucchieri
Directive Responsible



Page 3 of 5
07-10-2021



[13]

ANNEX

[14]

**EU-TYPE EXAMINATION CERTIFICATE
N. EPT 21 ATEX 4617 X issue 0**
[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	210405	0	04-05-2021
Datasheet of material important for safety and certification	A02	0	04-05-2021
Datasheet of component important for safety and certification	A03	0	04-05-2021
Schedule drawings and wiring diagrams	A04	0	04-04-2021
Installation & Operating Manual Intrinsically safe/dust tight	2058044	0	09-2021
Labels	A11	0	04-05-2021

[20] Terms and conditions

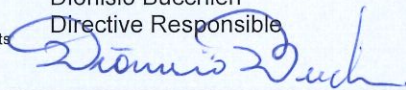
The product liability rests with the Manufacturer, his representative or, in the absence of a representative, with the importer, in accordance with the General Product Safety Directive 2001/95/EC.

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.


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CP-ATEX-MOD-26-00

 Page 4 of 5
 07-10-2021

[13]

[14]

ANNEX
EU-TYPE EXAMINATION CERTIFICATE
N. EPT 21 ATEX 4617 X issue 0



[21] History

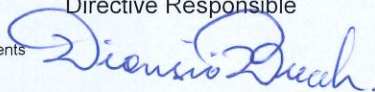
Issue	Description	Date
0	First Emission.	07-10-2021



PRD N° 119B
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CP-ATEX-MOD-26-00

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Page 5 of 5
07-10-2021

End of Certificate