

BM / TB proximity switches

The SOLDO BM and TB Series Proximity Switches, provides a compact design and a cost saving solution for remote valve position feedback in both linear and rotary applications, as well as general purpose feedback in explosive atmosphere or subsea environments.

The rugged design and ease installation system, provide maximum application versatility.

TB series is the conjunction of a BM bolt switch with an aluminum or stainless steel junction box, to allow a direct local wire connection.

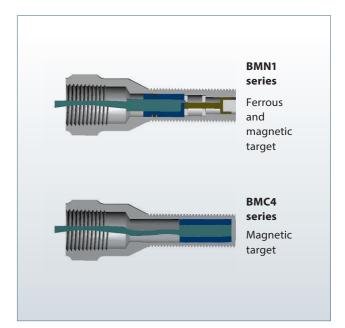
BM switch utilize industrial standard 5/8-18 UNF or M16x1.5 threads and each switch is provided with two heavy-duty jam nuts. BM switches can be mounted with standard brackets or customized ones to suit specific applications.

TB series uses the same BM head mounting pattern with the availability of a junction box screw bottom mounting system.

Unique Design Features

- Compact position indication on linear valve
- Adaptable solution to multiple applications
- 316 stainless steel rugged BM enclosure
- 450 mm of flying leads on the BM series for wiring purposes
- Junction box feature on the TB series
- 316 stainless steel or aluminum junction box on the TB series
- Magnetic or ferrous sensing target capabilities (see the switch options for more info)





Linking the Process with the Control Room

Product Specification

Certifications

ATEX, IECEx, EAC, INMETRO

Ex II 2GD Ex d IIC T6/T5/T4 Gb Ex tb IIIC T80°C/T95°C/T115°C Db Ta = -40 °C \leq Ta \leq 105 °C

SIL rating: up to SIL 3 approval on request

UL: only available on BMC4.

Class I, Division 1 and 2, Groups A, B, C and D Class II, Division 1 Groups E, F and G Class II Division 2, Groups F and G

Protection rating

BM: IP66 / 68 TB: IP67 / 68

Cable Entry Options

Standard – Single cable entry - M20 x 1,5

- ¹/₂" NPT

Dimensional Data

Switch Selection:

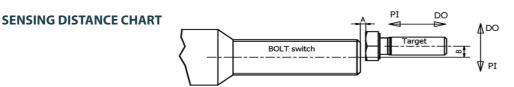
NOVA V3 N1

To be chosen with following requirements:

- Hermetically sealed proximity switch
- High power loop: Rating up to 5A @ 250 VAC - 5A @ 28 VDC
- Temperature range: -50 to +105 °C

REED C4

- Hermetically sealed proximity reed switch
- Inert gas contact chamber
- Rating up to 1A @ 24 VDC
- Temperature range: -60 to +105 °C



SPECIFICATIONS								
SENSING	Switch	Direction A [Values in mm]		Direction B [Values in mm]				
				Target distance: 2 mm		Target distance: 1 mm		
DISTANCE	BMN1	PI: Max 2	DO: 6	PI: 3	DO: 12	PI: 7	DO: 12	
	BMC4	PI: 3,6	DO: 6	PI: 4	DO: 5	PI: 4,5	DO:7	
FREQUENCY	BMN1	Max 30 Hz						
RANGE	BMC4	Max 100 Hz						
RESPONSE TIME	BMN1	Single operation < 2ms		Operation in frequency (10÷30 Hz) < 1 ms				
RESPONSE TIME	BMC4	2 ms						

Notes:

• PI: Is the point where the switch first operates.

- DO: Is the point where the switch is released.
- PI & DO values refers to the distance between the 2 axis of BOLT switch and target.
- Target distance refers to the distance between the 2 opposite faces of BOLT switch and target.
- For BMN1 switch the maximum operating distance is 2 mm using a properly size ferrous target.
- This distance may be increased using a magnetic target (optional).
- BMC4 switch is supplied with its standard magnetic target.

• Optional magnetic target to increase the sensing range of the switch are available. For any kind of request please contact SOLDO.

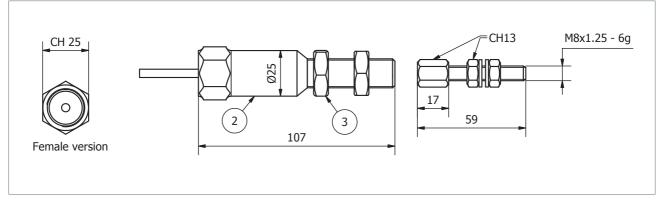


Ferrous and Magnetic target

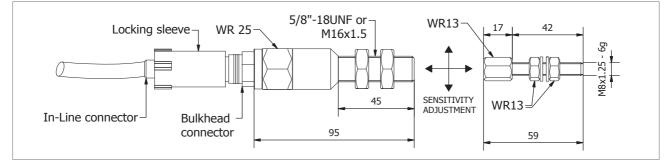
Magnetic target

Dimensional Data

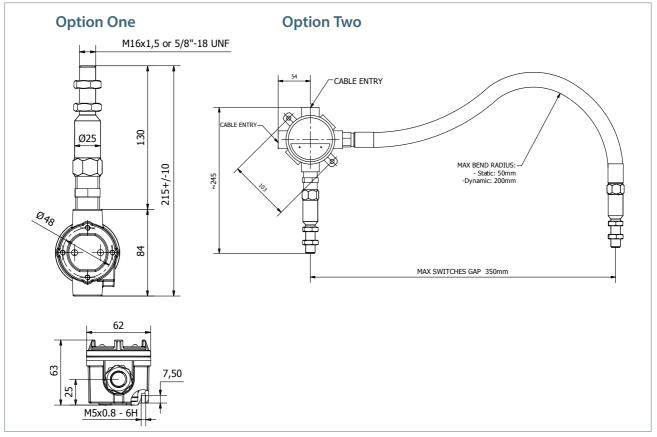
BM DIMENSIONAL DRAWING



BM SUBSEA DIMENSIONAL DRAWING



TB DIMENSIONAL DRAWING



Linking the Process with the Control Room

Product Ordering Matrix

Nomenclature		BM N1 1 1 E - E 1 A 2 3 A 6				
BM TB	Proximity bolt switch Proximity bolt switch with integrated junction box	Series				
C4 N1	Magnetic SPDT hermetically sealed switch, max. 1A@24VDC (usable in Exia loops) Magnetic proximity SPDT hermetically sealed switch, silver plated snap acting contacts	Switch Type				
1 2	Nr. 1 switch or sensor N° 2 switches (only for TB series)	Switch Quantity				
A 1	Circuit board with extra pass-through terminals (standard) Flying leads (for BM series)	Terminals				
0 E	Black polyester powder coating (for aluminium TB series) Electropolished finishing (for stainless steel TB series)	Coating				
1 2 E D	N° 2 1/2" NPT cable entries (only for TB series with 2 switches) N° 2 M20x1.5 cable entries (only for TB series with 2 switches) N° 1 M20x1.5 cable entry N° 1 1/2" npt cable entry	Cable Entries				
1	No visual position indicator	Visual Position Indicator				
W A G U	Weather proof limit switch box ATEX certified box EAC certified box for Russian market, with RTN permit UL certified box (available on BMC4 option)	Approval*				
0 2 7 8	Ordinary location Certification marking: Ex II 2GD Exd IIC CULUS class1/2 Div1 (available on BMC4 option) CULUS class1/2 Div2 (available on BMC4 option)	Marking				
2 3 6 7	Weather Proof 67 (available on TB series) Weather Proof IP66/68 (available on BM series) Subsea application up to -40 meters (available on BM series) ** Nema 4 4X (available on BMC4 option)	IP Protection rating				
A	Ambient temperature range: -20 +80 Ambient temperature range: -40 +80	Temperature				
6 8	316 stainless steel heavy duty enclosure 316 stainless steel with aluminum junction box (only for TB series)	Material				

* SIL2 and SIL3 available on request ** SubSea cable with fast connector with standard length as follow: 5, 20, 40 mt



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