16.08.2014
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Datasheet - BN 12-RZ

Magnetic reed switch / BN 12

☒ Preferred typ

(Minor differences between the printed image and the original product may exist!)

- Actuation from side
- Non-contact principle
- with bias magnet
- Long life
- Metal enclosure
- Actuating distance up to 60 mm depending on actuating magnet and version
- Design Ø 10.7 mm
- with central mounting
- With pre-wired cable

Ordering details

Product type description	BN 12-RZ
Article number	101186836
EAN code	4030661335353

Approval

Approval	-

Global Properties

Product name	BN 12
Standards	-
Compliance with the Directives (Y/N) CE	Yes
suitable for elevators (Y/N)	Yes
Mounting	central with threated flange M12 x 1
Active principle	Magnetic drive
Materials	
- Material of the housings	Metal film
- Material of the cable mantle	LiYY
Housing construction form	cylinder, thread
Weight	50 g
Recommended actuator	BP 10 N, BP 10 S, 2 x BP 10 N, 2 x BP 10 S, BP 15 N, BP 15 S, 2 x BP

	15/2 N, 2 x BP 15/2 S, BP 34 N, BP 34 S, BP 20 N, BP 20 S, BP 31 N, BP 31 S, BP 11 N, BP 11 S, 2 x BP 11 N, 2 x BP 11 S, BP 12 N, BP 12 S, 2 x BP 12 N, 2 x BP 12 S, BP 21 N, BP 21 S, 2 x BP 21 N, 2 x BP 21 S, BE 20 N, BE 20 S
- Lift switchgear	BP 10, 2 x BP 10, 2 x BP 15/2, BP 15, 2 x BP 15, BP 34

Mechanical data

Design of electrical connection	Cable
Cable length	1 m
Conductors	2 x 0,25 mm²
AWG-Number	23
Mechanical life	min. 10.000.000 operations
Electrical lifetime	1.000.000 … 10.000.000 operations
Actuating planes	Actuation from side
Switch distance S_n	15 mm … 60 mm BP 10N = 15 mm BP 10S = 15 mm 2 x BP 10N = 20 mm 2 x BP 10S = 20 mm BP 15N = 17 mm BP 15S = 17 mm 2 x BP 15/2N = 22 mm 2 x BP 15/2S = 22 mm BP 34N = 15 ... 30 mm BP 34S = 15 ... 30 mm BP 20N = 25 mm BP 20S = 25 mm BP 31N = 25 mm BP 31S = 25 mm BP 11N = 15mm BP 11S = 15 mm 2 x BP 11N = 25 mm 2 x BP 11S = 25 mm BP 12N = 20 mm BP 12S = 20 mm 2 x BP 12N = 10 ... 30 mm 2 x BP 12S = 10 ... 30 mm BP 21N = 15 ... 45 mm BP 21S = 15 ... 45 mm 2 x BP 21N = 20 ... 60 mm 2 x BP 21S = 20 ... 60 mm BE 20 N = 20 mm BE 20 S = 20 mm
- notice	Actuating distance up to 60 mm depending on actuating magnet and version The specifications with regard to the switching distances apply to the actuation of the individually mounted devices without ferromagnetic influence. Any change of the distance, positive either negative, is possible due to ferromagnetic interference. When multiple actuating magnets are used, the mutual interference must be observed.
Type of actuation	Magnet
restistance to shock	30 g / 11 ms
Resistance to vibration	10 … 55 Hz, Amplitude 1 mm
Bounce duration	0,15 ms
Latching (Y/N)	Yes
bias magnet (Y/N)	Yes
Actuating speed	max. 18 m/s
Switching point accuracy	± 0,25 mm

Ambient conditions

Ambient temperature	
- Min. environmental temperature	−25 °C
- Max. environmental temperature	+70 °C
Protection class	IP67 to IEC/EN 60529

Electrical data

Design of control element	bistable contact
Number of snap-in contacts	1
Switching time - Close	0,35 ms
Switching time - Open	30 ms
Switch frequency	< 300 Hz
Dielectric strength	580
Switching voltage	max. 200 VAC
Switching current	max. 1 A
Switching capacity	max. 30 VA / W

Outputs

Design of control output	Reed contakts

LED switching conditions display

LED switching conditions display (Y/N)	No

ATEX

Explosion protection categories for gases	None
Explosion protected category for dusts	None

Dimensions

Dimensions of the sensor	
- Length of sensor	71 mm
- Diameter of sensor	10.7 mm

notice

The opening and closing functions depend on the direction of actuation, the actuating magnets and the polarity of the actuating magnets.

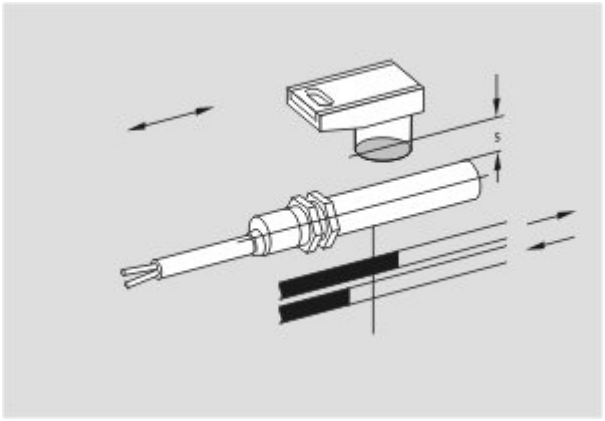
When the switches and actuators come together, the colours must coincide: Red (S) to red (S) and green (N) to green (N). This does not apply to the bistable contact.

The switch is to be mounted on iron with a non-magnetic layer of at least 20 mm.

Included in delivery

Actuators must be ordered separately.

Diagram



Note Diagram

positive break NC contact

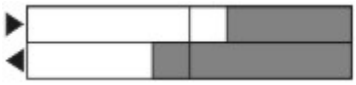
active

no active

Normally-open contact

Normally-closed contact

Switch travel diagram



Notes Switch travel diagram

Contact closed

Contact open

Setting range

Break point

Positive opening sequence/- angle

VS adjustable range of NO contact

VÖ adjustable range of NC contact

N after travel

Documents

Mounting and wiring instructions (de, en, fr) 104 kB, 03.08.2006

Code: m_bn1p01

notice - Switch distance (it) 27 kB, 12.04.2013

Code: s_bn_p01_it

notice - Switch distance (fr) 29 kB, 12.04.2013

Code: s_bn_p01_fr

notice - Switch distance (en) 27 kB, 12.04.2013

Code: s_bn_p01_en

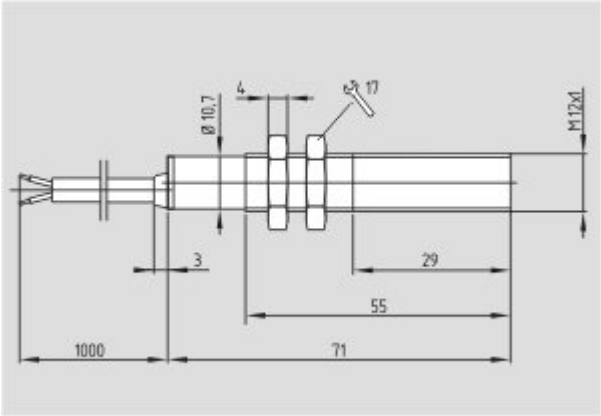
notice - Switch distance (de) 28 kB, 12.04.2013

Code: s_bn_p01_de

notice - Switch distance (es) 28 kB, 12.04.2013

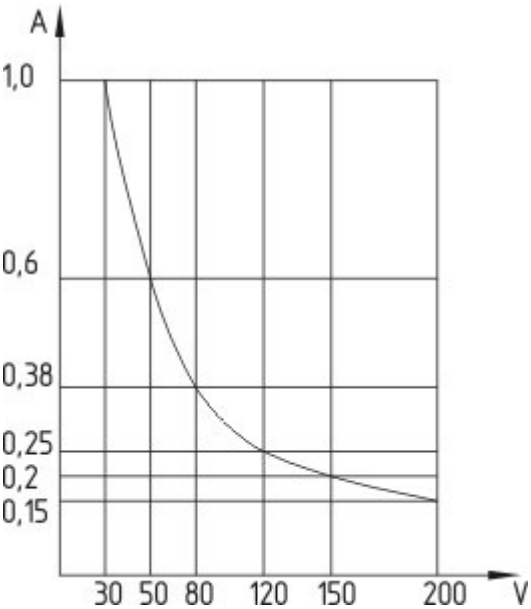
Code: s_bn_p01_es

Images

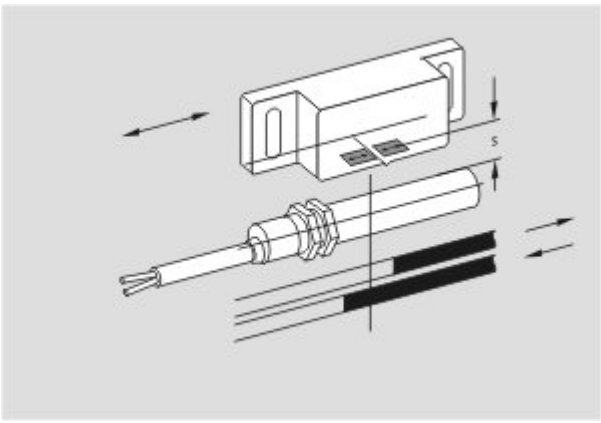


Dimensional drawing (basic component)

Switch travel diagram



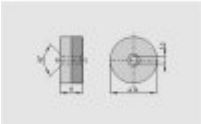
Characteristic curve



Diagram

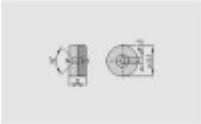
System components

Actuator



101057553 - BP 34

- thermoplastic enclosure
- S-pole marked red
- N-pole marked green
- Suitable for mounting on ferrous material with a distance of 25 mm



101060163 - BP 15

- thermoplastic enclosure
- N-pole marked green
- S-pole marked red
- Suitable for mounting on ferrous material with a distance of 18 mm

101060165 - BP 15/2

- Unenclosed
- Polarity stamped in
- Suitable for mounting on ferrous material with a distance of 18 mm

101057531 - BP 10

- Unenclosed
- Colour coding of poles by lables

K.A. Schmersal GmbH & Co. KG, Möddinghofe 30, D-42279 Wuppertal
The data and values have been checked throroughly. Technical modifications and errors excepted.
Generiert am 16.08.2014 - 04:29:37h Kasbase 2.2.18.F DBI

Image

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