

Datasheet - BNS 180-02z

Safety sensors / BNS 180



Preferred typ



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

- Thermoplastic enclosure
- Suitable for food processing industry
- Particularly large switching distance
- Ø M 18 x 1
- Long life
- no mechanical wear
- Insensitive to transverse misalignment
- Insensitive to soiling

Ordering details

Product type description	BNS 180-02Z
Article number	101133009
EAN code	4030661279640
eCl@ss	27-27-24-02

Approval

Approval



BG




USA/CAN

Classification

Standards	EN ISO 13849-1
B _{10d} Opener (NC)	25.000.000
- notice	at max. 20% contact load
Mission time	20 Years
notice	$MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}}$

$$n_{op} = \frac{d_{ap} \times h_{cp} \times 3600 \text{ s/h}}{t_{cycle}}$$

Global Properties

Product name	BNS 180
Standards	IEC 60947-5-3, BG-GS-ET-14
Compliance with the Directives (Y/N) 	Yes
Category safety pursuant to EN ISO 13849-1	
Materials	
- Material of the housings	Plastic, glass-fibre reinforced thermoplastic
- Material of the cable mantle	PVC
Weight	50 g
Coding available (Y/N)	No
Monitoring function of downstream devices (Y/N)	No
Prerequisite evaluation unit	
Recommended safety-monitoring module	
Recommended actuator	BP 6, BP 8, BP 10, BP 15 SS

Mechanical data

Design of electrical connection	Cable
Cable length	1 m
Conductors	4 x 0,25 mm ²
AWG-Number	23
mechanical installation conditions	quasi-flush
Active area	
Ensured switch distance ON S _{ao}	10 mm / 20 mm
- Actuating magnet BP 6	10 mm
- Actuating magnet BP 8	10 mm
- Actuating magnet BP 15 SS	20 mm
- Actuating magnet BP 10	20 mm
Ensured switch distance OFF	22 mm / 32 mm
- Actuating magnet BP 15 SS	32 mm
- Actuating magnet BP 6	22 mm
- Actuating magnet BP 10	32 mm
- Actuating magnet BP 8	22 mm
Type of actuation	Magnet
Direction of motion	head-on with regard to the active surface
restistance to shock	30 g / 11 ms
Resistance to vibration	10 ... 55 Hz, Amplitude 1 mm

Ambient conditions

Ambient temperature	
- Min. environmental temperature	-25 °C
- Max. environmental temperature	+70 °C
Storage and transport temperature	
- Min. Storage and transport temperature	-25 °C
- Max. Storage and transport temperature	+70 °C
Protection class	IP67

Electrical data

Integrated Safety monitoring module available (Y/N)	No
Cross circuit/short circuit recognition possible (Y/N)	Yes
Voltage type	VAC/DC
Switch frequency	max. 5 Hz
Switching voltage	max. 100 VAC/DC

Switching current	max. 250 mA
Switching capacity	max. 3 W

Outputs

Design of control output	
Number of shutters	0 piece
Number of openers	2 piece
Design of output signal switching device	

Electrical data - Safety outputs

Number of secure semi-conductor outputs	0 piece
Number of secure outputs with contact	2 piece

Electrical data - Diagnostic output

Number of semi-conductor outputs with signaling function	0 piece
Number of outputs with signaling function that already have a contact	0 piece

LED switching conditions display

LED switching conditions display (Y/N)	No
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ATEX

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

Dimensions

Dimensions of the sensor	
- Length of sensor	36 mm
- Diameter of sensor	M18

notice

Contact symbols shown for the closed condition of the guard device.

The safety sensor must be mounted in such a way that actuation with another magnet is impossible (concealed mounting according to EN 1088)


Included in delivery


Actuators must be ordered separately.

Diagram



Note Diagram

 positive break NC contact

 active



no active



Normally-open contact



Normally-closed contact

Ordering code

BNS 180-(1)Z-(2)

(1)

11 1 Normally open contact (NO) / 1 Opener (NC)

12 1 Normally open contact (NO) / 2 Opener (NC)

02 2 Opener (NC)

(2)

2187-2 Individual contact outlet

Documents

Operating instructions and Declaration of conformity (nl) 367 kB, 25.03.2014

Code: mrl_bns180_nl

Operating instructions and Declaration of conformity (pl) 392 kB, 25.03.2014

Code: mrl_bns180_pl

Operating instructions and Declaration of conformity (en) 367 kB, 24.02.2014

Code: mrl_bns180_en

Operating instructions and Declaration of conformity (pt) 422 kB, 04.07.2012

Code: mrl_bns180_pt

Operating instructions and Declaration of conformity (es) 394 kB, 10.06.2014

Code: mrl_bns180_es

Operating instructions and Declaration of conformity (de) 370 kB, 24.02.2014

Code: mrl_bns180_de

Operating instructions and Declaration of conformity (jp) 648 kB, 14.03.2014

Code: mrl_bns180_jp

Operating instructions and Declaration of conformity (da) 401 kB, 08.08.2012

Code: mrl_bns180_da

Operating instructions and Declaration of conformity (fr) 367 kB, 01.04.2014

Code: mrl_bns180_fr

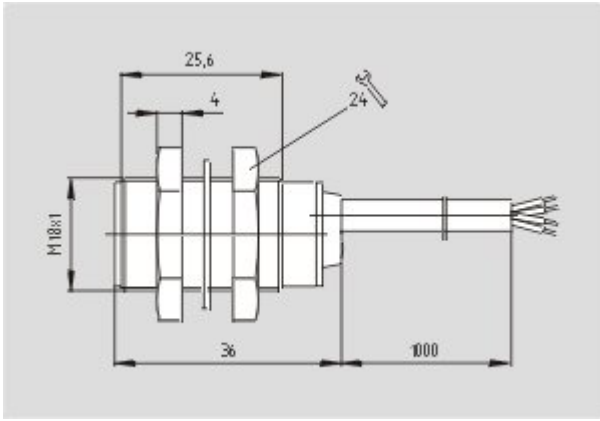
Operating instructions and Declaration of conformity (it) 370 kB, 14.03.2014

Code: mrl_bns180_it

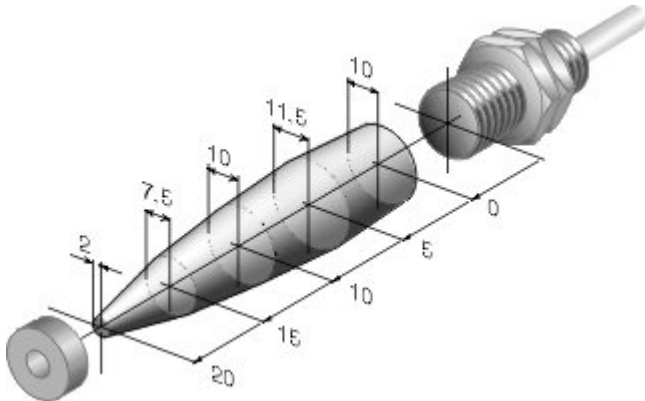
EAC certification (ru) 782 kB, 05.10.2015

Code: q_6044p17_ru

Images



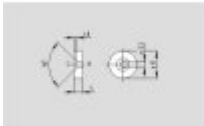
Dimensional drawing (basic component)



Characteristic curve

System components

Actuator



1091837 - BP 6

- Unenclosed
- S-pole marked red



101054816 - BP 8

- Unenclosed
- S-pole marked red



101057531 - BP 10

- Unenclosed
- Colour coding of poles by labels

1139818 - BP 15 SS

- Suitable for food processing industry
- Stainless steel



Mounting accessories



101068879 - MOUNTING CLAMP H 18

- For a smooth fitting of the proximity switches with cylindric shape Ø 18 mm or thread M18

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The data and values have been checked thoroughly. Technical modifications and errors excepted.

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