

05.09.2014 - 11:39:53h

## Datasheet - BNS 180-11z

Safety sensors / BNS 180



■ Preferred typ



- 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

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

### Ordering details

Product type description	BNS 180-11Z
Article number	101120933
EAN code	4030661049359

### Approval


Approval	 BG  USA/CAN
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### Classification

Standards	EN ISO 13849-1
B <sub>10d</sub> Opener/Normally open contact (NC/NO)	25.000.000
Mission time	20 Years
notice	$MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}}$ $n_{op} = \frac{d_{op} \times h_{op} \times 3600 \text{ s/h}}{t_{cycle}}$

### Global Properties

Product name	BNS 180
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Standards	IEC 60947-5-3, BG-GS-ET-14
Compliance with the Directives (Y/N) 	Yes
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

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Design of electrical connection	Cable
Cable length	1 m
Conductors	4 x 0,25 mm <sup>2</sup>
AWG-Number	23
mechanical installation conditions	quasi-flush
Active area	
Ensured switch distance ON S <sub>ao</sub>	10 mm / 20 mm
- Actuating magnet BP 10	20 mm
- Actuating magnet BP 6	10 mm
- Actuating magnet BP 8	10 mm
- Actuating magnet BP 15 SS	20 mm
Ensured switch distance OFF	22 mm / 32 mm
- Actuating magnet BP 6	22 mm
- Actuating magnet BP 10	32 mm
- Actuating magnet BP 8	22 mm
- Actuating magnet BP 15 SS	32 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

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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

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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. 5 W

### Outputs

Design of control output	
Number of shutters	1 piece
Number of openers	1 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

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BNS 180-(1)Z-(2)

### (1)

<b>11</b>	1 Normally open contact (NO) / 1 Opener (NC)
<b>12</b>	1 Normally open contact (NO) / 2 Opener (NC)
<b>02</b>	2 Opener (NC)

### (2)

<b>2187-2</b>	Individual contact outlet
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## Documents

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**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

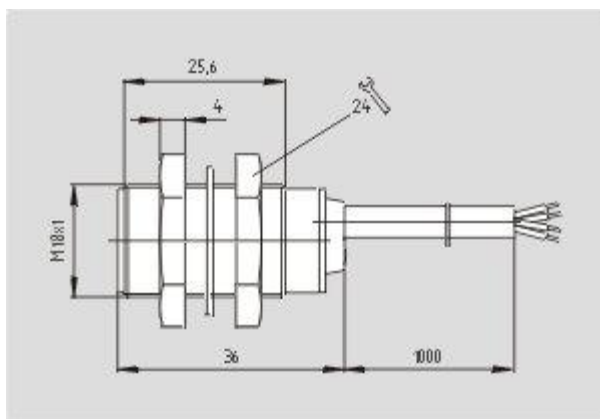
Code: mrl\_bns180\_fr

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

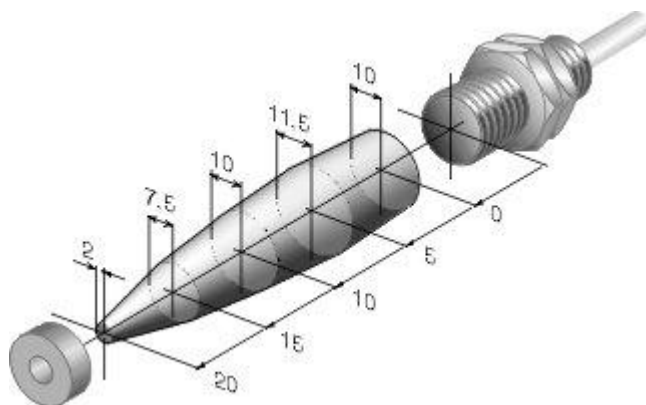
Code: mrl\_bns180\_it

## Images

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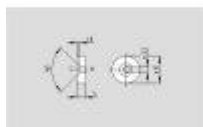
Dimensional drawing (basic component)



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

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### Mounting accessories



#### 101068879 - MOUNTING CLAMP H 18

- For a smooth fitting of the proximity switches with cylindric shape  $\varnothing$  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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