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22.08.2014
-
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Datasheet - BNS 250-12Z

Safety sensors / BNS 250

☒ Preferred typ

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

- thermoplastic enclosure
- Small body
- Concealed mounting possible
- 33 mm x 25 mm x 13 mm
- Long life
- no mechanical wear
- Insensitive to transverse misalignment
- Insensitive to soiling

Ordering details

Product type description	BNS 250-12Z
Article number	101123071
EAN code	4030661050119

Approval

Approval	BG USA/CAN

Classification

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

Global Properties

Product name	BNS 250

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Standards	IEC 60947-5-3, BG-GS-ET-14
Compliance with the Directives (Y/N) CE	Yes
Materials	
- Material of the housings	Plastic, glass-fibre reinforced thermoplastic
- Material of the cable mantle	PVC
Weight	45 g
Coding available (Y/N)	Yes
Monitoring function of downstream devices (Y/N)	No
Prerequisite evaluation unit	Yes
Recommended safety-monitoring module	
Recommended actuator	BPS 250

Mechanical data

Design of electrical connection	Cable
Cable length	1 m
Conductors	0,25 mm²
AWG-Number	23
mechanical installation conditions	not flush
Active area	front side
Ensured switch distance ON	4 mm
Ensured switch distance OFF	14 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	VDC
Switch frequency	max. 5 Hz
Switching voltage	max. 24 VDC
Switching current	max. 100 mA
Switching capacity	max. 1 W

Outputs

Design of control output	Other, Reed contakts
Number of shutters	1 piece
Number of openers	2 piece

Electrical data - Safety outputs

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

ATEX

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

Dimensions

Dimensions of the sensor	
- Width of sensor	33 mm
- Height of sensor	25 mm
- Length of sensor	13 mm

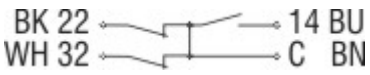
notice

Contact symbols shown for the closed condition of the guard device.
The contact configuration for versions with or without LED is identical.

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 250-(1)Z(2)-(3)

(1)	
11	1 Normally open contact (NO) / 1 Opener (NC)
12	1 Normally open contact (NO) / 2 Opener (NC)

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(2)

without	without LED switching conditions display
G	with LED switching conditions display

(3)

2187	Individual contact outlet (*without LED switching conditions display)*

Documents

Operating instructions and Declaration of conformity (fr) 769 kB, 13.01.2010
Code: mrl_bns250_fr

Operating instructions and Declaration of conformity (da) 278 kB, 27.08.2012
Code: mrl_bns250_da

Operating instructions and Declaration of conformity (pt) 310 kB, 05.07.2012
Code: mrl_bns250_pt

Operating instructions and Declaration of conformity (de) 1 MB, 21.01.2010
Code: mrl_bns250_de

Operating instructions and Declaration of conformity (jp) 1 MB, 23.11.2010
Code: mrl_bns250_jp

Operating instructions and Declaration of conformity (pl) 288 kB, 02.04.2012
Code: mrl_bns250_pl

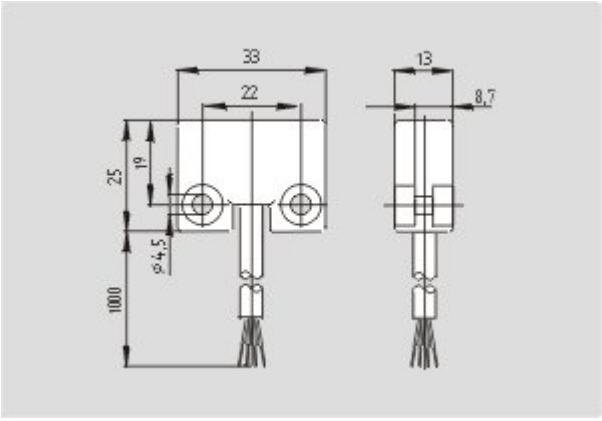
Operating instructions and Declaration of conformity (en) 1 MB, 21.01.2010
Code: mrl_bns250_en

Operating instructions and Declaration of conformity (it) 767 kB, 13.01.2010
Code: mrl_bns250_it

Operating instructions and Declaration of conformity (es) 769 kB, 13.01.2010
Code: mrl_bns250_es

Operating instructions and Declaration of conformity (nl) 772 kB, 25.01.2010
Code: mrl_bns250_nl

Images



Dimensional drawing (basic component)

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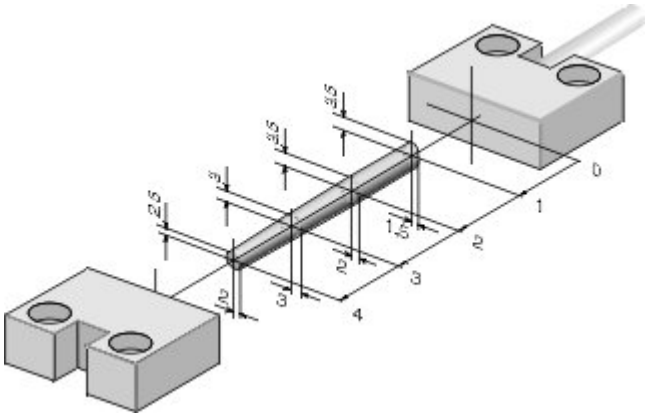

Characteristic curve

System components

Actuator

101120594 - BPS 250

• thermoplastic enclosure

Accessories

101131223 - SPACER BNS 250

• to mount the magnetic safety sensor and actuator on ferromagnetic material
• Suitable for food processing industry

Image

Image
et=sS