

## Datasheet - BNS 250-12ZG

Safety sensors / BNS 250



- LED version
- 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

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

### Ordering details

Product type description	BNS 250-12ZG
Article number	1123072
EAN code	4030661050140

### Approval


Approval	 BG
	 USA/CAN

### Classification

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

### Global Properties

Product name	BNS 250
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)	Yes
Monitoring function of downstream devices (Y/N)	No
Prerequisite evaluation unit	Yes
Recommended safety-monitoring module	
Recommended actuator	BPS 250

### Mechanical data

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Design of electrical connection	Cable
Cable length	1 m
Conductors	0,25 mm <sup>2</sup>
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

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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	VDC
Switch frequency	max. 5 Hz
Switching voltage	max. 24 VDC
Switching current	max. 100 mA
Switching capacity	max. 1 W

### Outputs

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

### Electrical data - Safety outputs

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)	Yes
- The LED is illuminated when the guard door is open.	

### 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)

(2)

*without* without LED switching conditions display

**G** with LED switching conditions display

(3)

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

## Documents

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**Operating instructions and Declaration of conformity** (de) 1 MB, 21.01.2010

[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/Bns250/bedien/de/mrl\\_bns250\\_de.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/Bns250/bedien/de/mrl_bns250_de.pdf)

**Operating instructions and Declaration of conformity** (en) 1 MB, 21.01.2010

[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/Bns250/bedien/en/mrl\\_bns250\\_en.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/Bns250/bedien/en/mrl_bns250_en.pdf)

**Operating instructions and Declaration of conformity** (es) 769 kB, 13.01.2010

[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/Bns250/bedien/es/mrl\\_bns250\\_es.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/Bns250/bedien/es/mrl_bns250_es.pdf)

**Operating instructions and Declaration of conformity** (fr) 769 kB, 13.01.2010

[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/Bns250/bedien/fr/mrl\\_bns250\\_fr.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/Bns250/bedien/fr/mrl_bns250_fr.pdf)

**Operating instructions and Declaration of conformity** (it) 767 kB, 13.01.2010

[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/Bns250/bedien/it/mrl\\_bns250\\_it.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/Bns250/bedien/it/mrl_bns250_it.pdf)

**Operating instructions and Declaration of conformity** (jp) 866 kB, 25.01.2010

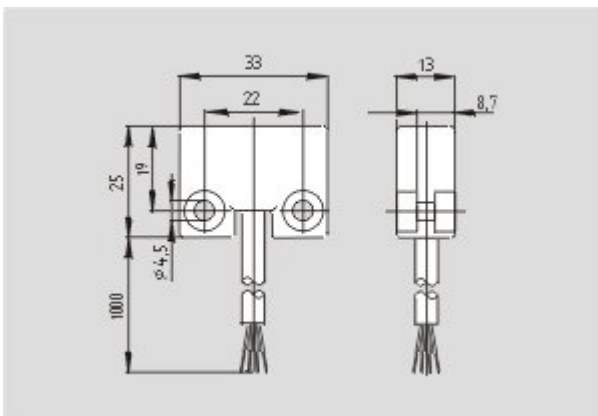
[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/Bns250/bedien/jp/mrl\\_bns250\\_jp.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/Bns250/bedien/jp/mrl_bns250_jp.pdf)

**Operating instructions and Declaration of conformity** (nl) 772 kB, 25.01.2010

[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/Bns250/bedien/nl/mrl\\_bns250\\_nl.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/Bns250/bedien/nl/mrl_bns250_nl.pdf)

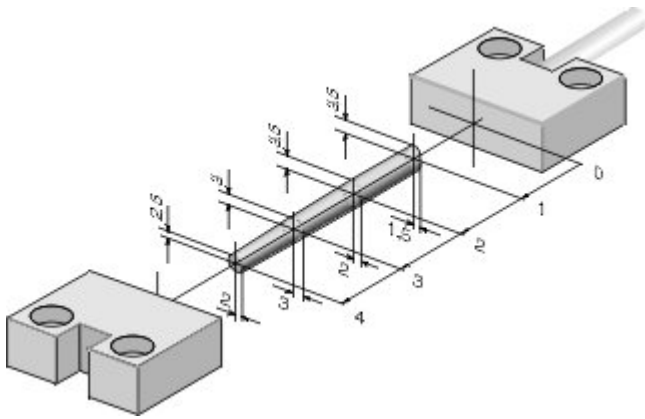
## Images

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Dimensional drawing (basic component)

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Characteristic curve

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## System components

### Actuator

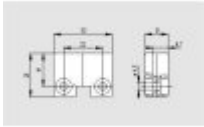


**1120594 - BPS 250**

- thermoplastic enclosure

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### Accessories



**1131223 - SPACER BNS 250**

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

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

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