

## Datasheet - BNS 33-02Z-2187

Safety sensors / BNS 33



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

- thermoplastic enclosure
- Concealed mounting possible
- Insensitive to transverse misalignment
- 88 mm x 25 mm x 13 mm
- Long life
- no mechanical wear
- Insensitive to soiling
- AS-Interface Safety at Work available
- Individual contact outlet

### Ordering details

Product type description	BNS 33-02Z-2187
Article number	1128792
EAN code	4030661049595


### Approval

Approval	 BG  USA/CAN
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### Classification

Standards	EN ISO 13849-1
B <sub>10d</sub> Opener (NC)	25.000.000
- notice	at max. 20% contact load
Mission time	20 Years
notice	$MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}}$ $n_{op} = \frac{d_{op} \times h_{op} \times 3600 \text{ s/h}}{t_{zyklus}}$

### Global Properties

Product name	BNS 33
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	70 g
Monitoring function of downstream devices (Y/N)	No
Prerequisite evaluation unit	Yes
Recommended safety-monitoring module	
Recommended actuator	BPS 33, BPS 33-2326

## 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	Side
Ensured switch distance ON	5 mm / 8 mm
- BPS 33-2326 = 8 mm Actuating magnet	
- BPS 33 = 5 mm Actuating magnet	
Ensured switch distance OFF	15 mm / 18 mm
- BPS 33 = 15 mm Actuating magnet	
- BPS 33-2326 = 18 mm Actuating magnet	
Repeat accuracy R	≤ 0,1 x
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. 3 W

## Outputs

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Design of control output	Other, Reed kontakts
Number of shutters	0 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

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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

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LED switching conditions display (Y/N)	No
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## ATEX

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

## Dimensions

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Dimensions of the sensor	
- Width of sensor	88 mm
- Height of sensor	25 mm
- Length of sensor	13 mm

## notice

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

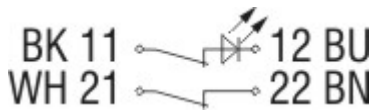
## Included in delivery

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

Actuators must be ordered separately.

## Diagram

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Note Diagram

-  positive break NC contact
-  active
-  no active
-  Normally-open contact
-  Normally-closed contact

## Ordering code

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BNS 33-(1)Z(2)-(3)-(4)

(1)

- 02** 2 Opener (NC)
- 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)

without with cable

ST with connector M8

(4)

2187 Individual contact outlet

2187-10 Individual contact outlet, with LED

2237 Actuation from cable direction

## Documents

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**Operating instructions and Declaration of conformity (fr)** 418 kB, 05.11.2009

[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/bns33-2187-2363/bedien/fr/mrl\\_bns33-2187-2363\\_fr.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/bns33-2187-2363/bedien/fr/mrl_bns33-2187-2363_fr.pdf)

**Operating instructions and Declaration of conformity (jp)** 544 kB, 11.11.2009

[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/bns33-2187-2363/bedien/jp/mrl\\_bns33-2187-2363\\_jp.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/bns33-2187-2363/bedien/jp/mrl_bns33-2187-2363_jp.pdf)

**Operating instructions and Declaration of conformity (nl)** 424 kB, 05.11.2009

[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/bns33-2187-2363/bedien/nl/mrl\\_bns33-2187-2363\\_nl.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/bns33-2187-2363/bedien/nl/mrl_bns33-2187-2363_nl.pdf)

**Operating instructions and Declaration of conformity (en)** 698 kB, 21.01.2010

[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/bns33-2187-2363/bedien/en/mrl\\_bns33-2187-2363\\_en.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/bns33-2187-2363/bedien/en/mrl_bns33-2187-2363_en.pdf)

**Operating instructions and Declaration of conformity (de)** 617 kB, 21.01.2010

[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/bns33-2187-2363/bedien/de/mrl\\_bns33-2187-2363\\_de.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/bns33-2187-2363/bedien/de/mrl_bns33-2187-2363_de.pdf)

**Operating instructions and Declaration of conformity (es)** 417 kB, 11.11.2009

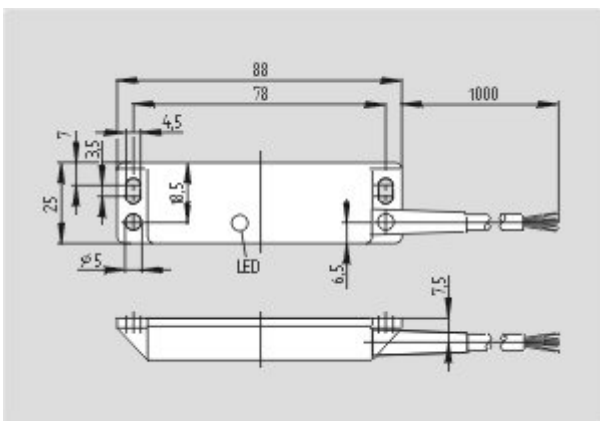
[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/bns33-2187-2363/bedien/es/mrl\\_bns33-2187-2363\\_es.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/bns33-2187-2363/bedien/es/mrl_bns33-2187-2363_es.pdf)

**Operating instructions and Declaration of conformity (it)** 791 kB, 16.11.2009

[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/bns33-2187-2363/bedien/it/mrl\\_bns33-2187-2363\\_it.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/bns33-2187-2363/bedien/it/mrl_bns33-2187-2363_it.pdf)

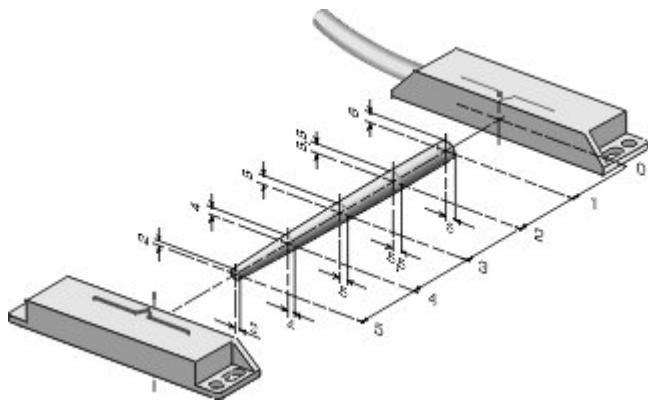
## Images

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Dimensional drawing (basic component)

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Characteristic curve

## System components

### Actuator

1107771 - BPS 33



1148482 - BPS 33-2326

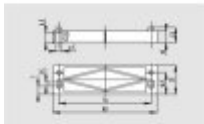
- higher switching distance  $S_{ao}$  8 mm



### Accessories

1158893 - SPACER BN 31/33

- to mount the magnetic safety sensor and actuator on ferromagnetic material



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

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