

## Datasheet - BNS 33-11ZG

Safety sensors / BNS 33



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

- thermoplastic enclosure
- LED version
- 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

### Ordering details

|                          |               |
|--------------------------|---------------|
| Product type description | BNS 33-11ZG   |
| Article number           | 1109210       |
| EAN code                 | 4030661026480 |

### Approval

Approval



### 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 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  | 65 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   | VDC         |
| Switch frequency                                       | max. 5 Hz   |
| Switching voltage                                      | max. 24 VDC |
| Switching current                                      | max. 10 mA  |
| Switching capacity                                     | max. 240 mW |

## Outputs

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|                          |                      |
|--------------------------|----------------------|
| Design of control output | Other, Reed kontakts |
| Number of shutters       | 1 piece              |
| Number of openers        | 1 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)                | Yes |
| - The LED is illuminated when the guard door is open. |     |

## 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.

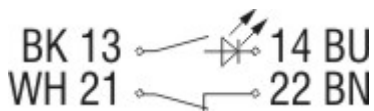
## Included in delivery

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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** (de) 800 kB, 21.01.2010

[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/Bns33/bedien/de/mrl\\_bns33\\_de.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/Bns33/bedien/de/mrl_bns33_de.pdf)

**Operating instructions and Declaration of conformity** (fr) 428 kB, 13.10.2009

[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/Bns33/bedien/fr/mrl\\_bns33\\_fr.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/Bns33/bedien/fr/mrl_bns33_fr.pdf)

**Operating instructions and Declaration of conformity** (es) 425 kB, 10.11.2009

[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/Bns33/bedien/es/mrl\\_bns33\\_es.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/Bns33/bedien/es/mrl_bns33_es.pdf)

**Operating instructions and Declaration of conformity** (jp) 543 kB, 13.10.2009

[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/Bns33/bedien/jp/mrl\\_bns33\\_jp.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/Bns33/bedien/jp/mrl_bns33_jp.pdf)

**Operating instructions and Declaration of conformity** (nl) 429 kB, 09.11.2009

[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/Bns33/bedien/nl/mrl\\_bns33\\_nl.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/Bns33/bedien/nl/mrl_bns33_nl.pdf)

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

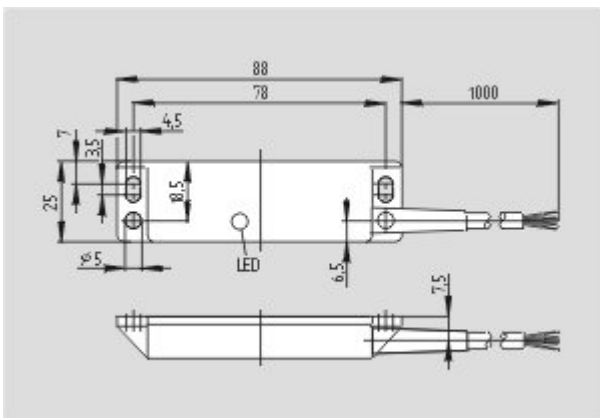
[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/Bns33/bedien/en/mrl\\_bns33\\_en.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/Bns33/bedien/en/mrl_bns33_en.pdf)

**Operating instructions and Declaration of conformity** (it) 422 kB, 11.11.2009

[http://www.schmersal.net/Bilddata/Si\\_senso/Pdf/Bns33/bedien/it/mrl\\_bns33\\_it.pdf](http://www.schmersal.net/Bilddata/Si_senso/Pdf/Bns33/bedien/it/mrl_bns33_it.pdf)

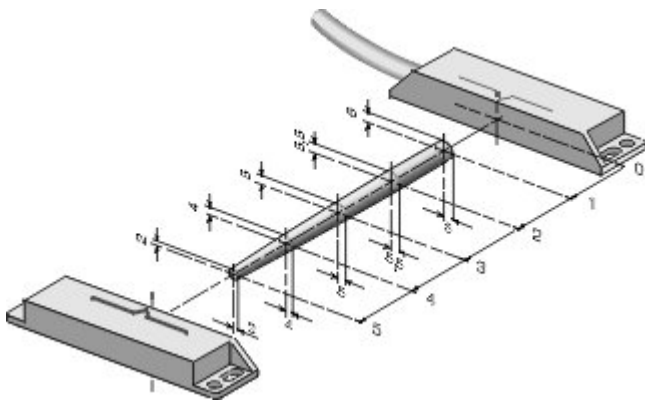
## Images

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Dimensional drawing (basic component)

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Characteristic curve

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## System components

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### Actuator

1107771 - BPS 33



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1148482 - BPS 33-2326

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



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### Accessories

1158893 - SPACER BN 31/33

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

