

## Datasheet - BNS 16-12ZL-ST1

Safety sensors / BNS 16



- thermoplastic enclosure
- Suitable for food processing industry
- Concealed mounting possible
- 52 mm x 90 mm x 32 mm
- Long life
- Insensitive to transverse misalignment
- no mechanical wear
- Insensitive to soiling
- Connector M12, 8-pole

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

### Ordering details

Product type description	BNS 16-12ZL-ST1
Article number	101195507
EAN code	4030661361222

### Approval


Approval



### Classification

Standards	EN ISO 13849-1
B10d Opener/Normally open contact (NC/NO)	25.000.000
- notice	at max. 20% contact load
Mission time	20 Years
notice	$MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}}$ $n_{op} = \frac{d_{op} \times h_{cp} \times 3600 \text{ s/h}}{t_{cycle}}$

### Global Properties

Product name	BNS 16
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
Weight	130 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 16

### Mechanical data

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Design of electrical connection	Connector M12
connector	centered
mechanical installation conditions	not flush
Active area	left-hand side
Ensured switch distance ON	8 mm
Ensured switch distance OFF	18 mm
Type of actuation	Magnet
Direction of motion	head-on with regard to the active surface
resistance 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. 400 mA
Switching capacity	max. 10 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

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Number of secure semi-conductor outputs	0 piece
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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

**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 52 mm  
 - Height of sensor 90 mm  
 - Length of sensor 39 mm

**notice**

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Contact symbols shown for the closed condition of the guard device.

**Included in delivery**

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Actuators must be ordered separately.

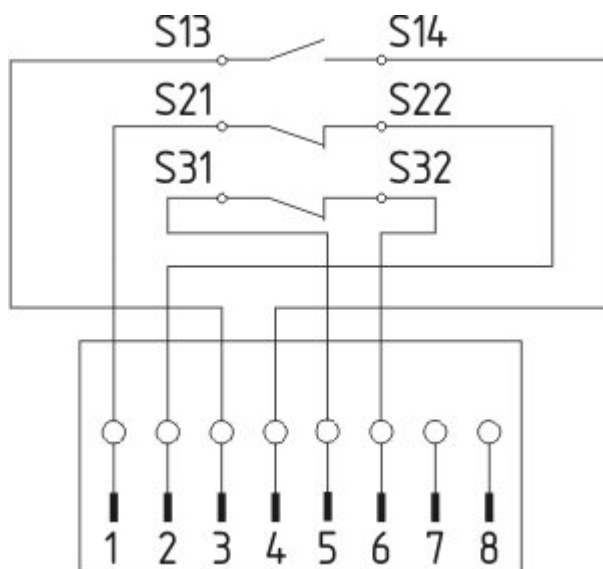
**Indication legend**

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

5 different directions of actuation: cover, front and below, right and left

**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 16-(1)Z(2)-(3)

(1)

- 11 1 Normally open contact (NO) / 1 Opener (NC) (Only for Plug-in connection)
- 12 1 Normally open contact (NO) / 2 Opener (NC)

(2)

- V Actuating planes front side
- R Actuating planes right-hand side
- L Actuating planes left-hand side
- D Actuating planes cover-side
- U Actuating planes bottom
- LR Actuating planes left-hand side/right-hand side

(3)

- ST1 Connector Middle
- ST2 Connector right
- ST3 Connector left

Documents

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**Operating instructions and Declaration of conformity** (en) 1 MB, 21.01.2010  
Code: mrl\_bns16-st\_en

**Operating instructions and Declaration of conformity** (fr) 805 kB, 14.12.2009  
Code: mrl\_bns16-st\_fr

**Operating instructions and Declaration of conformity** (pt) 348 kB, 04.07.2012  
Code: mrl\_bns16-st\_pt

**Operating instructions and Declaration of conformity** (it) 803 kB, 14.12.2009  
Code: mrl\_bns16-st\_it

**Operating instructions and Declaration of conformity** (nl) 807 kB, 14.12.2009  
Code: mrl\_bns16-st\_nl

**Operating instructions and Declaration of conformity** (es) 805 kB, 14.12.2009  
Code: mrl\_bns16-st\_es

**Operating instructions and Declaration of conformity** (de) 1 MB, 21.01.2010  
Code: mrl\_bns16-st\_de

**Operating instructions and Declaration of conformity** (jp) 501 kB, 09.08.2011  
Code: mrl\_bns16-st\_jp

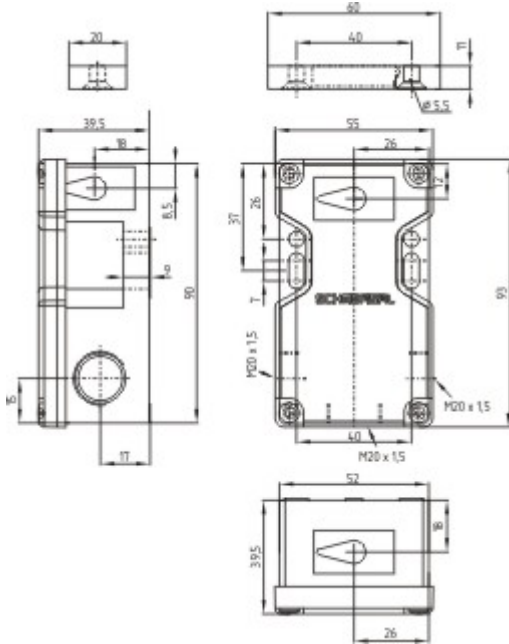
**Operating instructions and Declaration of conformity** (da) 324 kB, 08.08.2012

Code: mrl\_bns16-st\_da

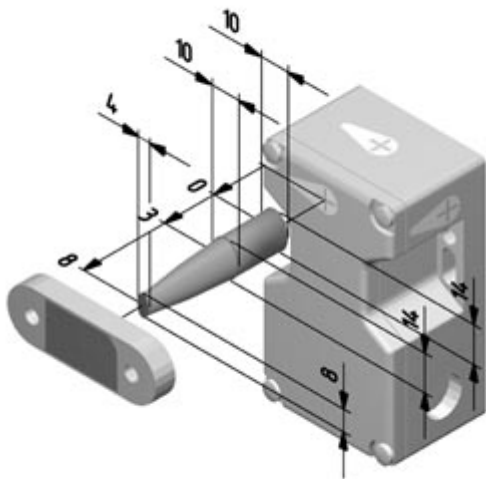
Operating instructions and Declaration of conformity (pl) 326 kB, 19.03.2012

Code: mrl\_bns16-st\_pl

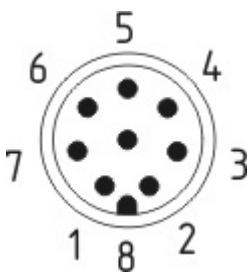
### Images



Dimensional drawing (basic component)



Dimensional drawing (miscellaneous)



Contact arrangement



Operating principle

## System components

### Actuator

101172566 - BPS 16



### Connector



A-K8M12

- Pre-wired cable
- 8-pole

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

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