

## Datasheet - BNS 303-02ZG-ST

Safety sensors / BNS 303



- thermoplastic enclosure
- Long life
- no mechanical wear
- Ø M30
- Suitable for food processing industry
- Insensitive to transverse misalignment
- Insensitive to soiling
- Connector M12, 4-pole

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

### Ordering details

Product type description	BNS 303-02ZG-ST
Article number	BNS 303-02ZG-ST
EAN code	

### Approval

Approval



BG




USA/CAN

### Classification

Standards	EN ISO 13849-1
B10d Opener (NC)	25.000.000
- notice	at max. 20% contact load
Mission time	20 Years
notice	$MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}}$ $n_{op} = \frac{d_{op} \times h_{op} \times 3600 \text{ s/h}}{t_{cycle}}$

### Global Properties

Product name	BNS 303
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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 nuts	thermoplastic
Weight	45 g
Coding available (Y/N)	Yes
Monitoring function of downstream devices (Y/N)	No
Prerequisite evaluation unit	
Recommended safety-monitoring module	AES 1135, AES 1235, SRB 202CS-24V , SRB 202CS/T-24V, SRB 400CS-24V, SRB 400CS/T-24V, SRB 301LC/B
Recommended actuator	BPS 300 , BPS 303 , BPS 303 SS

### Mechanical data

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Design of electrical connection	Connector M12
mechanical installation conditions	quasi-flush
Active area	
Ensured switch distance ON	5 mm
Ensured switch distance OFF	15 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
Tightening torque for nuts	A/F 36 max. 300 Ncm
Tightening torque for connectors	

### 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. 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	0 piece
Number of openers	2 piece
Design of output signal switching device	

### Electrical data - Safety outputs

Number of secure semi-conductor outputs	0 piece
Number of secure outputs with contact	2 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
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### ATEX

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

### Dimensions

Dimensions of the sensor	
- Length of sensor	44 mm
- Diameter of sensor	M30

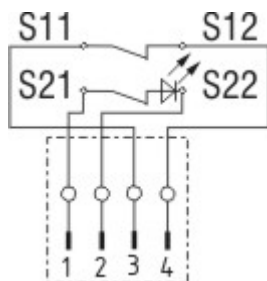
### notice

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.	
Mounting accessories - Nuts M 30 x 1,5	2 piece

### Diagram



Note Diagram

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

## Ordering suffix

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The applicable ordering suffix is added at the end of the part number of the safety switch.

Order example: BNS 303-02ZG-ST-2211

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...-2211	higher switching distance Sar: 8 mm Sao: 18 mm
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## Ordering code

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BNS 303-(1)Z(2)-(3)-(4)

(1)	
11	1 Normally open contact (NO) / 1 Opener (NC)
12	1 Normally open contact (NO) / 2 Opener (NC)
02	- / 2 Opener (NC)
03	- / 3 Opener (NC)
(2)	
without	without LED switching conditions display
G	with LED switching conditions display
(3)	
without	with cable
ST	with connector M12
(4)	
2187	Individual contact outlet
2211	higher switching distance

## Documents

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**Operating instructions and Declaration of conformity** (it) 403 kB, 14.03.2014

Code: mrl\_bns303\_it

**Operating instructions and Declaration of conformity** (nl) 410 kB, 25.03.2014

Code: mrl\_bns303\_nl

**Operating instructions and Declaration of conformity** (pt) 432 kB, 05.07.2012

Code: mrl\_bns303\_pt

**Operating instructions and Declaration of conformity** (jp) 531 kB, 14.03.2014

Code: mrl\_bns303\_jp

**Operating instructions and Declaration of conformity** (fr) 410 kB, 08.04.2014

Code: mrl\_bns303\_fr

**Operating instructions and Declaration of conformity** (es) 410 kB, 31.03.2014

Code: mrl\_bns303\_es

**Operating instructions and Declaration of conformity** (de) 411 kB, 24.02.2014

Code: mrl\_bns303\_de

**Operating instructions and Declaration of conformity** (en) 408 kB, 24.02.2014

Code: mrl\_bns303\_en

Operating instructions and Declaration of conformity (pl) 438 kB, 31.03.2014

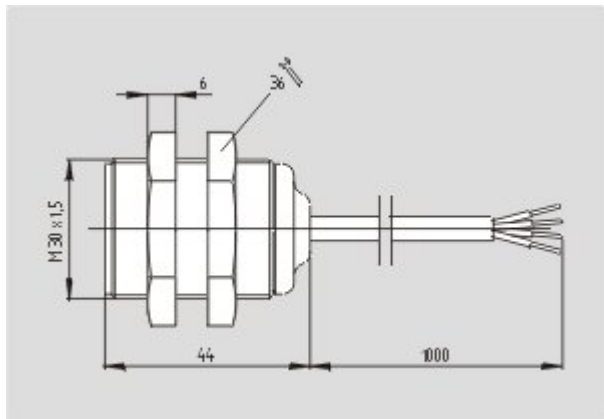
Code: mrl\_bns303\_pl

Operating instructions and Declaration of conformity (da) 411 kB, 23.08.2012

Code: mrl\_bns303\_da

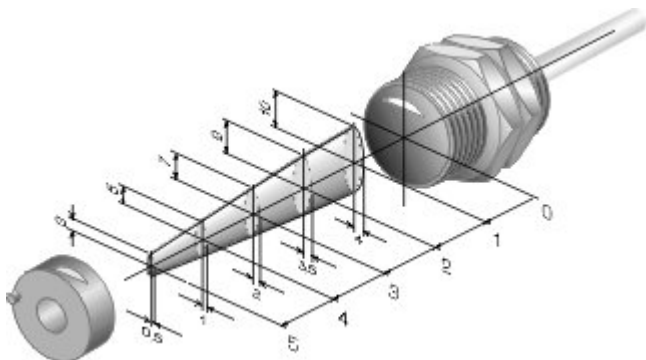
## Images

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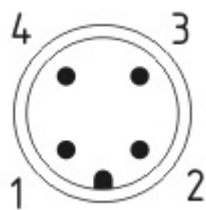
Dimensional drawing (basic component)

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Characteristic curve

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Contact arrangement

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## System components

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### Actuator

101113734 - BPS 300





**101117076 - BPS 303**

- Suitable for food processing industry



**101141156 - BPS 303 SS**

- Suitable for food processing industry

**Connector**



**A-K4M12**

- Pre-wired cable
- 4-pole

**Mounting accessories**



**101068520 - MOUNTING CLAMP H 30**

- For a smooth fitting of the proximity switches with cylindric shape Ø 30 mm or thread M30

K.A. Schmersal GmbH & Co. KG, Möddinghofe 30, D-42279 Wuppertal

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

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