

## Datasheet - BNS 303-12ZG 5,0M

Safety sensors / BNS 303



- LED version
- Thermoplastic enclosure
- Long life
- no mechanical wear
- Ø M30
- Suitable for food processing industry
- 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 303-12ZG 5,0M
Article number	101154625
EAN code	4030661173542
eCl@ss	27-27-24-02

### Approval

Approval



BG



USA/CAN


### Classification

Standards	EN ISO 13849-1
B <sub>10d</sub> Normally-closed contact/Normally open contact (NC/NO)	25.000.000
- notice	at max. 20% contact load
Mission time	20 Years
notice	

$$MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}}$$

$$n_{op} = \frac{d_{op} \times h_{op} \times 3600 \text{ s/h}}{t_{cycle}}$$

### Global Properties

Product name	BNS 303
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
- Material of the cable mantle	PVC
Weight	208 g
Coding available (Y/N)	Yes
Monitoring function of downstream devices (Y/N)	No
Prerequisite evaluation unit	
Recommended safety-monitoring module	AES 1102, AES 1112, AES 6112, AES 7112
Recommended actuator	BPS 300 , BPS 303 , BPS 303 SS

## Mechanical data

---

Design of electrical connection	Cable
Cable length	5 m
Conductors	4 x 0,25 mm <sup>2</sup>
AWG-Number	23
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

## Ambient conditions

---

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

---

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

---

Design of control output	Other, Reed kontakts
Number of shutters	1 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	1 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	
- 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

---



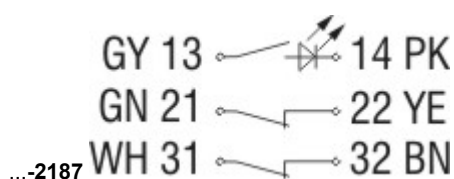
Note Diagram

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

### Ordering suffix

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

Order example: BNS 303-12ZG 5,0M-2187



Individual contact outlet  
LED version

...-2211

higher switching distance  
Sar: 8 mm  
Sao: 18 mm

## Ordering code

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

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

## Documents

**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) 416 kB, 12.01.2016

Code: mrl\_bns303\_de

**Operating instructions and Declaration of conformity** (en) 411 kB, 12.01.2016

Code: mrl\_bns303\_en

**Operating instructions and Declaration of conformity** (pl) 443 kB, 27.07.2015

Code: mrl\_bns303\_pl

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

Code: mrl\_bns303\_da

**Operating instructions and Declaration of conformity** (cs) 442 kB, 28.07.2015

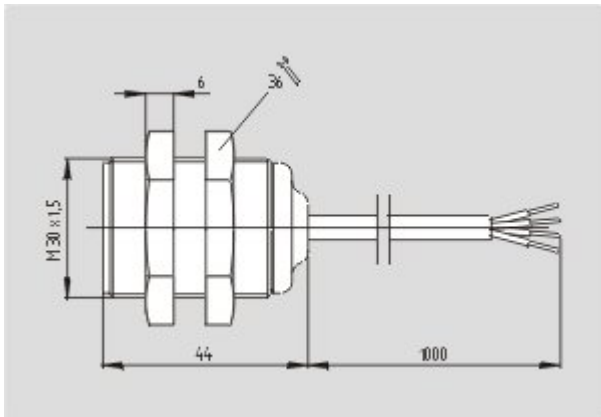
Code: mrl\_bns303\_cs

**EAC certification** (ru) 782 kB, 05.10.2015

Code: q\_6044p17\_ru

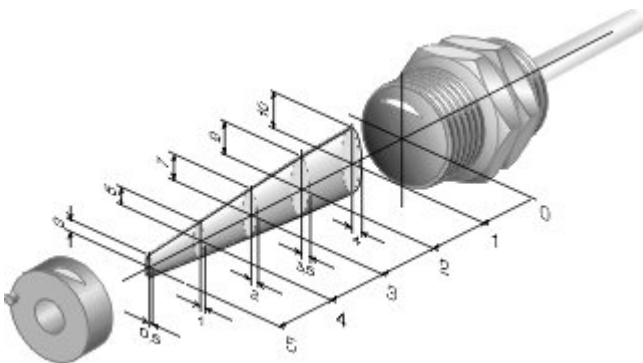
## Images

---



Dimensional drawing (basic component)

---



Characteristic curve

---

## System components

---

### Actuator

101113734 - BPS 300



---

**101117076 - BPS 303**

- Suitable for food processing industry



---

**101141156 - BPS 303 SS**

- Suitable for food processing industry



---

**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.

Generiert am 28.01.2016 - 23:39:19h Kasbase 3.2.1.F.64l