

## Datasheet - BNS 303-12Z 2,0M

Safety sensors / BNS 303

 Preferred typ

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

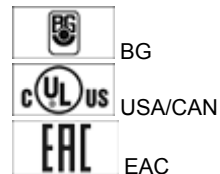
- Thermoplastic enclosure
- Long life
- Suitable for food processing industry only in combination with BPS 303 SS
- no mechanical wear
- Ø M30
- Insensitive to transverse misalignment
- Insensitive to soiling

### Ordering details

Product type description	BNS 303-12Z 2,0M
Article number	101120012
EAN Code	4030661048994
eCl@ss	27-27-24-02

### Approval

Approval




### Classification

Standards	EN ISO 13849-1
B10d 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

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Permanent light	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	100
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

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Design of electrical connection	Cable
Cable length	2
Conductors	4 x 0,25
AWG-Number	23
mechanical installation conditions	quasi-flush
Active area	
Ensured switch distance ON $S_{ao}$	5 mm
Ensured switch distance OFF $S_{ar}$	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

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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

Design of control output	Other, Reed kontakts
Number of shutters	1
Number of openers	2
Design of output signal switching device	

### Electrical data - Safety outputs

Number of secure semi-conductor outputs	0
Number of secure outputs with contact	0

### Electrical data - Diagnostic output

Number of semi-conductor outputs with signaling function	0
Number of outputs with signaling function that already have a contact	0

### LED switching conditions display

LED switching conditions display (Y/N)	No
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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 303-12Z 2,0M-**2187**

....-2187		Individual contact outlet
....-2211		higher switching distance Sar: 8 mm Sao: 18 mm

## 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) 445 kB, 03.01.2018

Code: mrl\_bns303\_it

**Operating instructions and Declaration of conformity** (nl) 447 kB, 03.01.2018

Code: mrl\_bns303\_nl

**Operating instructions and Declaration of conformity** (pt) 450 kB, 03.01.2018

Code: mrl\_bns303\_pt

**Operating instructions and Declaration of conformity** (jp) 551 kB, 03.01.2018

Code: mrl\_bns303\_jp

**Operating instructions and Declaration of conformity** (fr) 451 kB, 03.01.2018

Code: mrl\_bns303\_fr

**Operating instructions and Declaration of conformity** (es) 448 kB, 03.01.2018

Code: mrl\_bns303\_es

**Operating instructions and Declaration of conformity (de)** 413 kB, 15.12.2017

Code: mrl\_bns303\_de

**Operating instructions and Declaration of conformity (en)** 449 kB, 15.12.2017

Code: mrl\_bns303\_en

**Operating instructions and Declaration of conformity (pl)** 480 kB, 03.01.2018

Code: mrl\_bns303\_pl

**Operating instructions and Declaration of conformity (da)** 447 kB, 03.01.2018

Code: mrl\_bns303\_da

**Operating instructions and Declaration of conformity (cs)** 481 kB, 02.01.2018

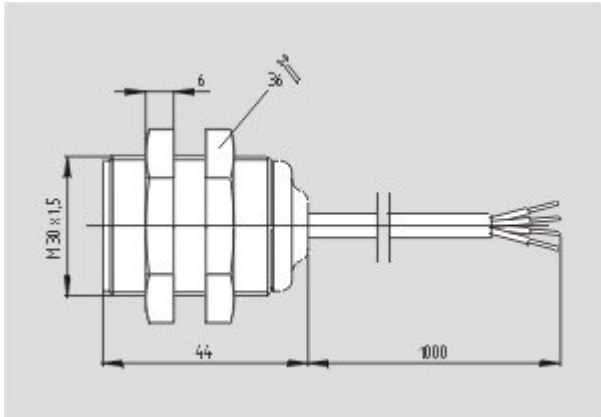
Code: mrl\_bns303\_cs

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

Code: q\_6044p17\_ru

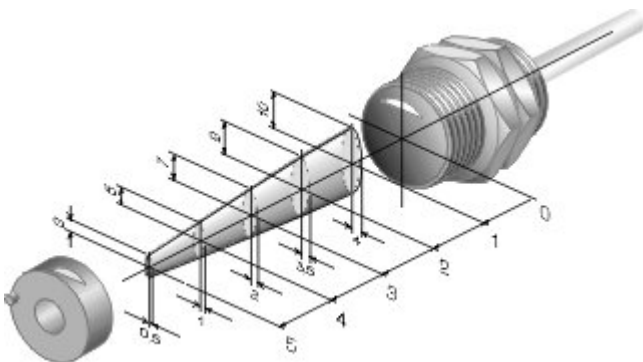
## Images

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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

101113734 - BPS 300



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**101117076 - BPS 303**

- Suitable for food processing industry



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**101141156 - BPS 303 SS**

- Suitable for food processing industry



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**Mounting accessories**



**101068520 - MOUNTING CLAMP H 30**

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

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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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