

Datasheet - BNS 303-11Z 5,0M

Safety sensors / BNS 303



SCHMERSAL

☑ Preferred typ



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

- Thermoplastic enclosure
- Long life
- no mechanical wear
- Ø M30
- Suitable for food processing industry
- Insensitive to transverse misalignment
- Insensitive to soiling

Ordering details

Product type description	BNS 303-11Z 5,0M
Article number	101123708
EAN code	4030661049090
eCl@ss	27-27-24-02

Approval

Approval



BG

USA/CAN

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	$MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}}$
	$n_{op} = \frac{d_{op} \times h_{op} \times 3600 \text{ s/h}}{t_{QOC}}$

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	195 g
Coding available (Y/N)	Yes
Monitoring function of downstream devices (Y/N)	No
Prerequisite evaluation unit	
Recommended safety-monitoring module	SRB 301AN, AES 1337
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 ²
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
resistance 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. 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 piece

Number of openers	1 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)	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

The applicable ordering suffix is added at the end of the part number of the safety switch.
Order example: BNS 303-11Z 5,0M-2211

...-2211	higher switching distance
	S _{ar} : 8 mm
	S _{ac} : 18 mm

Ordering code

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

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

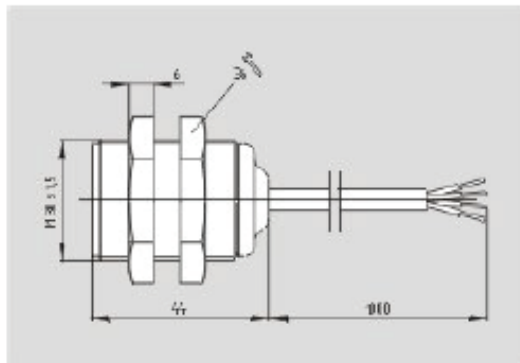
Operating instructions and Declaration of conformity (cs) 442 kB, 28.07.2015

Code: mrl_bns303_cs

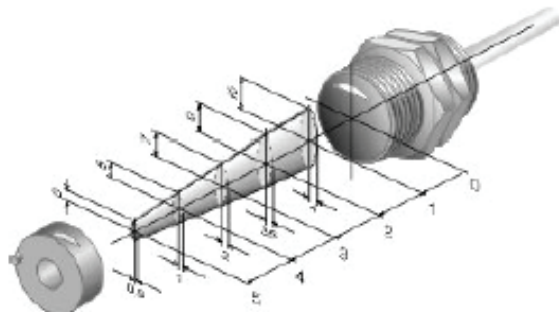
EAC certification (ru) 782 kB, 05.10.2015

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.
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