

## Datasheet - BNS 300-01ZG-ST

Safety sensors / BNS 300



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
- With integral evaluation
- Connector M12, 4-pole

### Ordering details

Product type description	BNS 300-01ZG-ST
Article number	101144214
EAN code	4030661131795
eCl@ss	27-27-24-02

### Approval

Approval



BG




USA/CAN

### Classification

Standards	EN ISO 13849-1
B <sub>10d</sub> Opener (NC)	20.000.000
- notice	at max. 20% contact load
Mission time	20 Years
notice	$MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}}$

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

### Global Properties

Product name	BNS 300
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	50 g
Coding available (Y/N)	Yes
Monitoring function of downstream devices (Y/N)	No
Prerequisite evaluation unit	
Recommended safety-monitoring module	
Recommended actuator	BPS 300, BPS 303, BPS 303 SS

## Mechanical data

---

Design of electrical connection	Connector M12
AWG-Number	
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

---

Ambient temperature	
- Min. environmental temperature	-25 °C
- Max. environmental temperature	+55 °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)	Yes
Cross circuit/short circuit recognition possible (Y/N)	No
Voltage type	DC
Switch frequency	max. 5 Hz
Switching voltage	max. 250 VAC
Switching current	max. 3 A
Switching capacity	max. 750 W
Utilisation category	DC-13: 24 V / 30 mA

## Outputs

---

Design of control output	
Number of shutters	0 piece
Number of openers	1 piece

### Electrical data - Safety outputs

---

Number of secure semi-conductor outputs	0 piece
Number of secure outputs with contact	1 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
- The LED is illuminated when the guard is closed.	

### ATEX

---

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

### Dimensions

---

Dimensions of the sensor	
- Length of sensor	78 mm
- Diameter of sensor	M30

### notice

---

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

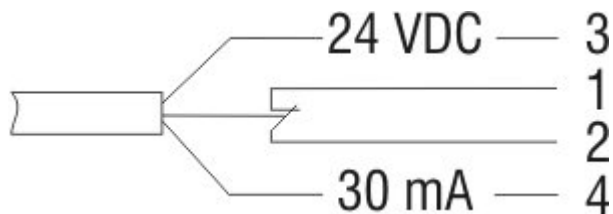
### Included in delivery

---






Actuators must be ordered separately.	
Mounting accessories	2 Nuts M 30 x 1,5

### 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 300-01ZG-ST-2211

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

## Ordering code

---

BNS 300-01ZG-(1)-(2)

(1)

without

ST

(2)

2211

2230

2246

with cable

male connector M12

higher switching distance

supplementary signalling output

U<sub>e</sub> 42 VAC

## Documents

---

**Operating instructions and Declaration of conformity** (jp) 710 kB, 16.09.2011

Code: mrl\_bns300\_jp

**Operating instructions and Declaration of conformity** (pt) 418 kB, 16.04.2012

Code: mrl\_bns300\_pt

**Operating instructions and Declaration of conformity** (es) 846 kB, 02.11.2010

Code: mrl\_bns300\_es

**Operating instructions and Declaration of conformity** (en) 991 kB, 04.10.2010

Code: mrl\_bns300\_en

**Operating instructions and Declaration of conformity** (nl) 538 kB, 27.01.2011

Code: mrl\_bns300\_nl

**Operating instructions and Declaration of conformity** (de) 993 kB, 04.10.2010

Code: mrl\_bns300\_de

**Operating instructions and Declaration of conformity** (pl) 420 kB, 03.02.2015

Code: mrl\_bns300\_pl

**Operating instructions and Declaration of conformity** (fr) 847 kB, 14.12.2010

Code: mrl\_bns300\_fr

**Operating instructions and Declaration of conformity** (it) 536 kB, 26.01.2011

Code: mrl\_bns300\_it

**Operating instructions and Declaration of conformity** (da) 407 kB, 27.08.2012

Code: mrl\_bns300\_da

**BG-test certificate** (en) 559 kB, 05.01.2011

Code: z\_b30p02

**BG-test certificate** (de) 571 kB, 05.01.2011

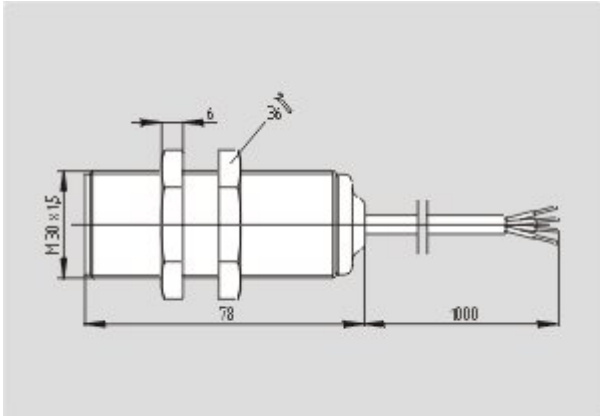
Code: z\_b30p01

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

Code: q\_6044p17\_ru

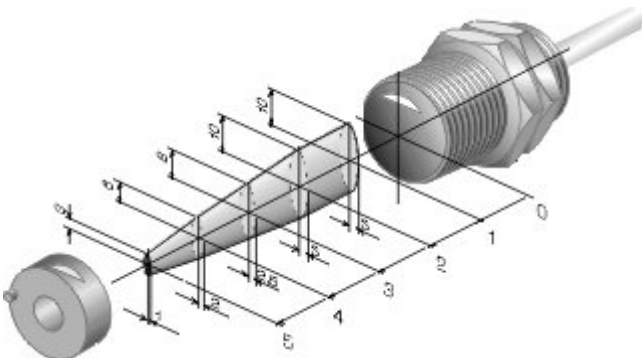
## Images

---



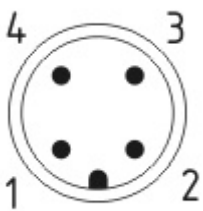
Dimensional drawing (basic component)

---



Characteristic curve

---



Contact arrangement

---

## System components

---

### Actuator



101113734 - BPS 300



**101117076 - BPS 303**

- 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  $\varnothing$  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 12.01.2016 - 09:19:54h Kasbase 3.2.1.F.64I