

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 |
|--------------|---------|

| | |
|--|---|
| 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

| | |
|------------------------------------|---|
| 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

| | |
|--|--------|
| 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 | 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 |
|--|-----|

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 |

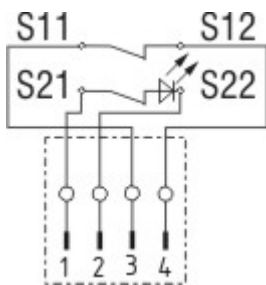
notice

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 303-02ZG-ST-2211

| | |
|----------|--|
| ...-2211 | higher switching distance Sar: 8 mm Sao: 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) 886 kB, 21.06.2010

Code: mrl_bns303_it

Operating instructions and Declaration of conformity (nl) 889 kB, 21.06.2010

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) 880 kB, 09.08.2011

Code: mrl_bns303_jp

Operating instructions and Declaration of conformity (fr) 887 kB, 21.06.2010

Code: mrl_bns303_fr

Operating instructions and Declaration of conformity (es) 887 kB, 21.06.2010

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

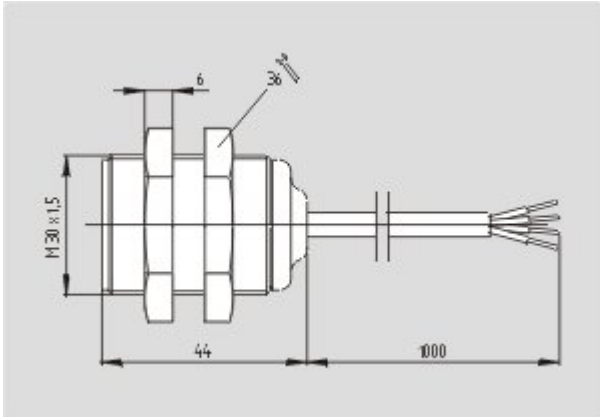
Operating instructions and Declaration of conformity (pl) 398 kB, 12.07.2013

Code: mrl_bns303_pl

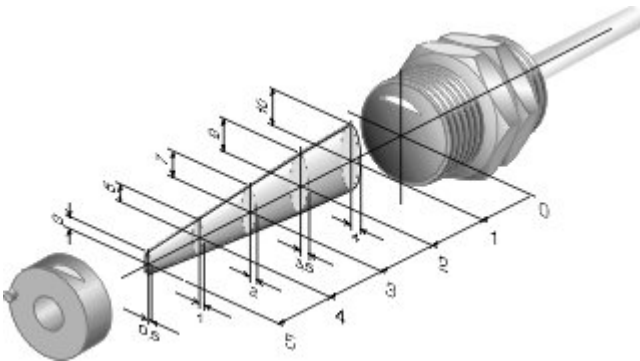
Operating instructions and Declaration of conformity (da) 411 kB, 23.08.2012

Code: mrl_bns303_da

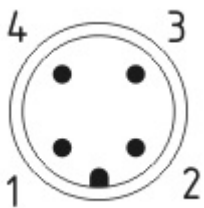
Images



Dimensional drawing (basic component)



Characteristic curve



Contact arrangement

System components

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 \varnothing 30 mm or thread M30

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

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