

## Datasheet - BNS 16-12ZD-ST2

Safety sensors / BNS 16



- thermoplastic enclosure
- Suitable for food processing industry
- Concealed mounting possible
- 52 mm x 90 mm x 32 mm
- Long life
- Insensitive to transverse misalignment
- no mechanical wear
- Insensitive to soiling
- Connector M12, 8-pole

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

### Ordering details

|                          |                 |
|--------------------------|-----------------|
| Product type description | BNS 16-12ZD-ST2 |
| Article number           | BNS 16-12zD-ST2 |
| EAN code                 |                 |

### Approval


Approval



### Classification

|                                                       |                                                                                                                        |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Standards                                             | EN ISO 13849-1                                                                                                         |
| B <sub>10d</sub> Opener/Normally open contact (NC/NO) | 25.000.000                                                                                                             |
| - notice                                              | at max. 20% contact load                                                                                               |
| Mission time                                          | 20 Years                                                                                                               |
| notice                                                | $MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}}$ $n_{op} = \frac{d_{op} \times h_{cp} \times 3600 \text{ s/h}}{t_{cycle}}$ |

### Global Properties

|                                                                                                                        |                                                                                                                                                                                                                                                                 |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product name                                                                                                           | BNS 16                                                                                                                                                                                                                                                          |
| 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                                                                                                                                                                                                                   |
| Coding available (Y/N)                                                                                                 | Yes                                                                                                                                                                                                                                                             |
| Monitoring function of downstream devices (Y/N)                                                                        | No                                                                                                                                                                                                                                                              |
| Prerequisite evaluation unit                                                                                           | Yes                                                                                                                                                                                                                                                             |
| Recommended safety-monitoring module                                                                                   | AES 1135, AES 1136, AES 1165, AES 1166, AES 1165-2250, AES 1185, AES 1235, AES 1236, AES 1265, AES 1266, AES 1337, AES 2135, AES 2136, AES 2335, AES 2336, AES 2535, AES 2536, AES 2365, AES 2366, AES 2565, AES 2566, AES 2285, AES 3075, SRB 202C., SRB 400C. |
| Recommended actuator                                                                                                   | BPS 16                                                                                                                                                                                                                                                          |

**Mechanical data**

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|                                           |                                           |
|-------------------------------------------|-------------------------------------------|
| Design of electrical connection connector | Connector M12 right                       |
| mechanical installation conditions        | not flush                                 |
| Active area                               | cover-side                                |
| Ensured switch distance ON                | 8 mm                                      |
| Ensured switch distance OFF               | 18 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              |

**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**

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|                          |                      |
|--------------------------|----------------------|
| Design of control output | Other, Reed kontakts |
| Number of shutters       | 1 piece              |
| Number of openers        | 2 piece              |

**Electrical data - Safety outputs**

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

### Electrical data - Diagnostic output

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

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|                                        |    |
|----------------------------------------|----|
| LED switching conditions display (Y/N) | No |
|----------------------------------------|----|

### ATEX

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

### Dimensions

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|                          |       |
|--------------------------|-------|
| Dimensions of the sensor |       |
| - Width of sensor        | 52 mm |
| - Height of sensor       | 90 mm |
| - Length of sensor       | 39 mm |

### notice

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

### Included in delivery

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Actuators must be ordered separately.

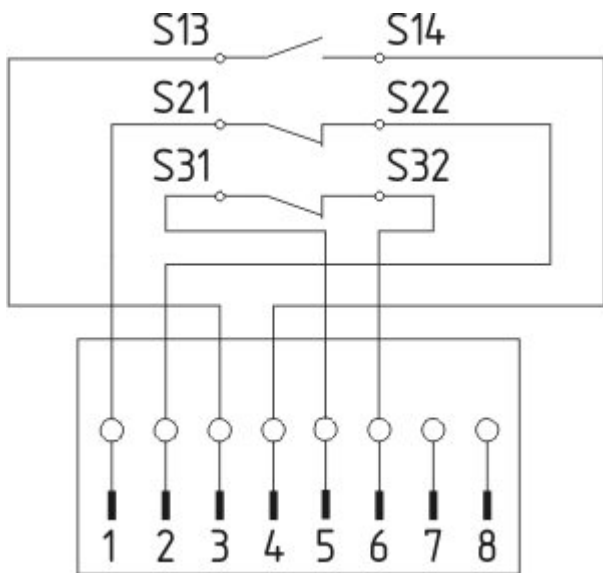
### Indication legend

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

5 different directions of actuation: cover, front and below, right and left

### Diagram

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Note Diagram

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

Ordering code

BNS 16-(1)Z(2)-(3)

|     |                                                                            |
|-----|----------------------------------------------------------------------------|
| (1) |                                                                            |
| 11  | 1 Normally open contact (NO) / 1 Opener (NC) (Only for Plug-in connection) |
| 12  | 1 Normally open contact (NO) / 2 Opener (NC)                               |
| (2) |                                                                            |
| V   | Actuating planes front side                                                |
| R   | Actuating planes right-hand side                                           |
| L   | Actuating planes left-hand side                                            |
| D   | Actuating planes cover-side                                                |
| U   | Actuating planes bottom                                                    |
| LR  | Actuating planes left-hand side/right-hand side                            |
| (3) |                                                                            |
| ST1 | Connector Middle                                                           |
| ST2 | Connector right                                                            |
| ST3 | Connector left                                                             |

Documents

Operating instructions and Declaration of conformity (en) 1 MB, 21.01.2010

Code: mrl\_bns16-st\_en

Operating instructions and Declaration of conformity (fr) 805 kB, 14.12.2009

Code: mrl\_bns16-st\_fr

Operating instructions and Declaration of conformity (pt) 348 kB, 04.07.2012

Code: mrl\_bns16-st\_pt

**Operating instructions and Declaration of conformity (it)** 803 kB, 14.12.2009

Code: mrl\_bns16-st\_it

**Operating instructions and Declaration of conformity (nl)** 807 kB, 14.12.2009

Code: mrl\_bns16-st\_nl

**Operating instructions and Declaration of conformity (es)** 805 kB, 14.12.2009

Code: mrl\_bns16-st\_es

**Operating instructions and Declaration of conformity (de)** 1 MB, 21.01.2010

Code: mrl\_bns16-st\_de

**Operating instructions and Declaration of conformity (jp)** 501 kB, 09.08.2011

Code: mrl\_bns16-st\_jp

**Operating instructions and Declaration of conformity (da)** 324 kB, 08.08.2012

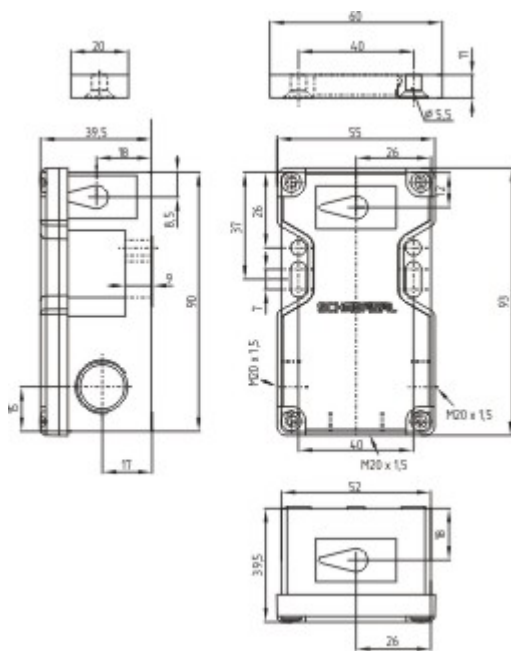
Code: mrl\_bns16-st\_da

**Operating instructions and Declaration of conformity (pl)** 326 kB, 19.03.2012

Code: mrl\_bns16-st\_pl

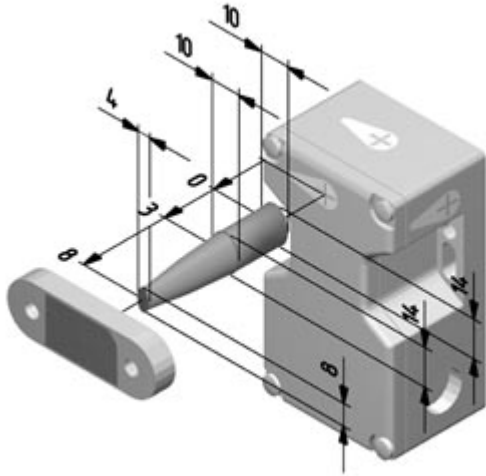
## Images

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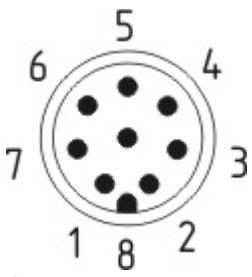
Dimensional drawing (basic component)

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Dimensional drawing (miscellaneous)

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Contact arrangement

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Operating principle

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**System components**

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**Actuator**



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## Connector



### A-K8M12

- Pre-wired cable
- 8-pole

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

Generiert am 20.08.2014 - 22:45:04h Kasbase 2.2.18.F DBI

Image

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