

Datasheet - BNS 16-12ZV-ST1

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

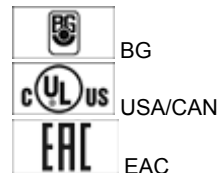
(Minor differences between the printed image and the original product may exist!)

Ordering details

Product type description	BNS 16-12ZV-ST1
Article number	101188810
EAN Code	4030661345284
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	$MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}}$

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

Global Properties

Permanent light	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
Weight	127
Coding available (Y/N)	Yes
Monitoring function of downstream devices (Y/N)	No
Prerequisite evaluation unit	Yes
Recommended safety-monitoring module	
Recommended actuator	BPS 16

Mechanical data

Design of electrical connection	Connector M12
connector	centered
mechanical installation conditions	not flush
Active area	front side
Ensured switch distance ON S_{ao}	8 mm
Ensured switch distance OFF S_{ar}	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

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
Number of openers	2

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	
- Width of sensor	52 mm
- Height of sensor	90 mm
- Length of sensor	39 mm

notice

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

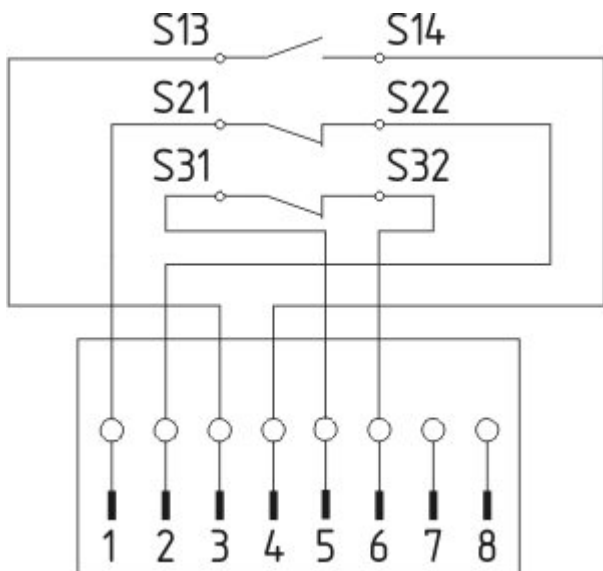
Included in delivery

Actuators must be ordered separately.






Indication legend

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

Diagram



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) 335 kB, 07.12.2016

Code: mrl_bns16-st_en

Operating instructions and Declaration of conformity (fr) 346 kB, 30.11.2018

Code: mrl_bns16-st_fr

Operating instructions and Declaration of conformity (pt) 345 kB, 07.02.2017

Code: mrl_bns16-st_pt

Operating instructions and Declaration of conformity (it) 329 kB, 28.01.2016

Code: mrl_bns16-st_it

Operating instructions and Declaration of conformity (nl) 355 kB, 28.06.2018

Code: mrl_bns16-st_nl

Operating instructions and Declaration of conformity (es) 343 kB, 16.01.2017

Code: mrl_bns16-st_es

Operating instructions and Declaration of conformity (de) 333 kB, 07.12.2016

Code: mrl_bns16-st_de

Operating instructions and Declaration of conformity (jp) 443 kB, 22.08.2017

Code: mrl_bns16-st_jp

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

Code: mrl_bns16-st_da

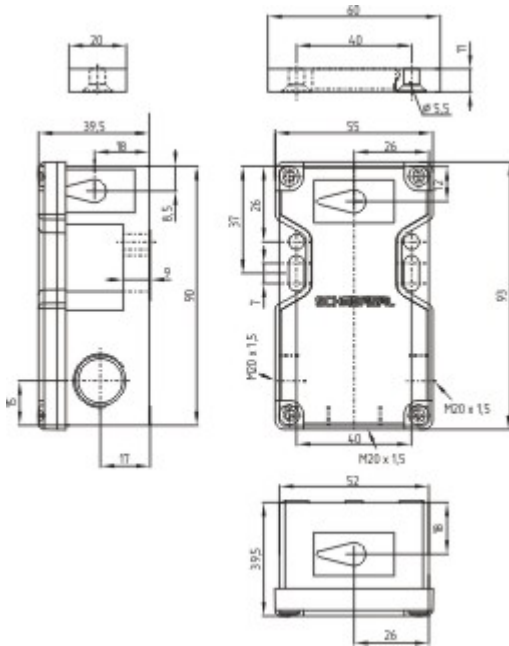
Operating instructions and Declaration of conformity (pl) 374 kB, 17.02.2017

Code: mrl_bns16-st_pl

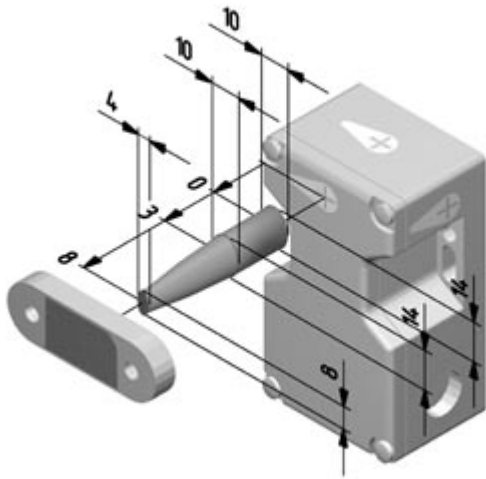
EAC certification (ru) 782 kB, 05.10.2015

Code: q_6044p17_ru

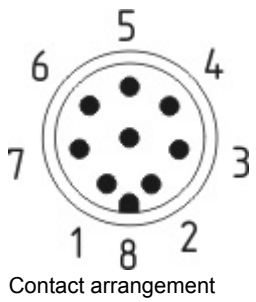
Images



Dimensional drawing (basic component)



Dimensional drawing (miscellaneous)



Contact arrangement



Operating principle

System components

Actuator



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.

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