

## Datasheet - BNS-B20-12zG-ST-R

Safety sensors / BNS-B20



Preferred typ



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

- Thermoplastic enclosure
- Non-contact safety switch
- Does not protrude into the door opening
- 119,5 mm x 140 mm x 43,3 mm
- Substitutes door-handle and safety switch, no further door fittings required
- Modern and symmetric design
- Tamper-proof because of integral coded safety sensor
- Ergonomic operation
- Suitable for hinged and sliding guards
- No protruding actuator
- Simple mounting with 4 Screws
- Connector M12 x 1, 8-pole

### Ordering details

Product type description	BNS-B20-12ZG-ST-R
Article number	101177734
EAN Code	4030661309194
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	

$$MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}}$$

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

### Global Properties

Permanent light	BNS-B20
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	115
Coding available (Y/N)	Yes
Monitoring function of downstream devices (Y/N)	No
Prerequisite evaluation unit	
Recommended safety-monitoring module	
Recommended actuator	BNS-B20-B01

## Mechanical data

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Design of electrical connection	Connector M12
AWG-Number	
mechanical installation conditions	quasi-flush
Ensured switch distance ON $S_{ao}$	0 mm
Ensured switch distance OFF $S_{ar}$	22 mm
Type of actuation	Magnet
restistance to shock	30 g / 11 ms
Resistance to vibration	10 ... 55 HZ, Amplitude 1 mm
Latching force	100 N
Door hinge	right
Max. door weight	
- sliding guard	3
- hinged guard	5

## 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	VDC
Switch frequency	max. 5 HZ
Switching voltage	max. 24 VDC
Switching current	max. 10 mA
Switching capacity	max. 240 mW

## Outputs

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Design of control output	
Number of shutters	1
Number of openers	2
Design of output signal switching device	

## Electrical data - Safety outputs

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Number of secure semi-conductor outputs	0
Number of secure outputs with contact	2

## Electrical data - Diagnostic output

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Number of semi-conductor outputs with signaling function	0
Number of outputs with signaling function that already have a contact	1

## LED switching conditions display

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LED switching conditions display (Y/N)	Yes
- The LED is illuminated when the guard is closed.	

## 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	119.5 mm
- Height of sensor	140 mm
- Length of sensor	43.3 mm

## notice

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

The contact configuration for versions with or without LED is identical.

Inductive loads (e.g. contactors, relays, etc.) are to be suppressed by means of a suitable circuit.

Contact S21-S22 must be integrated in the safety circuit

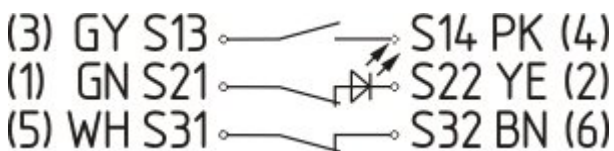
## Included in delivery

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Actuators must be ordered separately.


## Diagram


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
Note Diagram

 positive break NC contact

 active

 no active

 Normally-open contact

 Normally-closed contact

## Ordering code

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BNS-B20-(1)Z(2)-(3)-(4)

(1)

12 1 Normally open contact (NO) / 2 Opener (NC)  
02 2 Opener (NC)

(2)

without without LED switching conditions display  
G with LED switching conditions display

(3)

without with Pre-wired cable bottom  
H with Pre-wired cable rear  
ST with Connector M12 bottom

(4)

L Door hinge on left-hand side (*Only for Pre-wired cable bottom or Plug-in connection*)  
R Door hinge on right-hand side (*Only for Pre-wired cable bottom or Plug-in connection*)

## Documents

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**Operating instructions and Declaration of conformity** (pt) 524 kB, 16.10.2017

Code: mrl\_bns-b20\_pt

**Operating instructions and Declaration of conformity** (es) 485 kB, 28.09.2017

Code: mrl\_bns-b20\_es

**Operating instructions and Declaration of conformity** (it) 499 kB, 16.10.2017

Code: mrl\_bns-b20\_it

**Operating instructions and Declaration of conformity** (en) 484 kB, 14.09.2017

Code: mrl\_bns-b20\_en

**Operating instructions and Declaration of conformity** (pl) 554 kB, 01.03.2018

Code: mrl\_bns-b20\_pl

**Operating instructions and Declaration of conformity** (de) 488 kB, 14.09.2017

Code: mrl\_bns-b20\_de

**Operating instructions and Declaration of conformity** (jp) 663 kB, 10.11.2011

Code: mrl\_bns-b20\_jp

**Operating instructions and Declaration of conformity** (fr) 485 kB, 25.09.2017

Code: mrl\_bns-b20\_fr

**Operating instructions and Declaration of conformity** (nl) 517 kB, 28.06.2018

Code: mrl\_bns-b20\_nl

**Operating instructions and Declaration of conformity** (da) 513 kB, 23.08.2012

Code: mrl\_bns-b20\_da

**BG-test certificate** (en) 643 kB, 27.02.2007

Code: z\_bnbp02

**BG-test certificate** (de) 648 kB, 27.02.2007

Code: z\_bnbp01

**Brochure** (fr) 337 kB, 03.05.2005

Code: b\_b20p03

**Brochure** (en) 290 kB, 03.05.2005

Code: b\_b20p02

**Brochure** (de) 296 kB, 03.05.2005

Code: b\_b20p01

**Brochure** (it) 297 kB, 03.05.2005

Code: b\_b20p05

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

Code: q\_6044p17\_ru

**notice** (de, en) 60 kB, 21.03.2006

Code: s\_b20p01

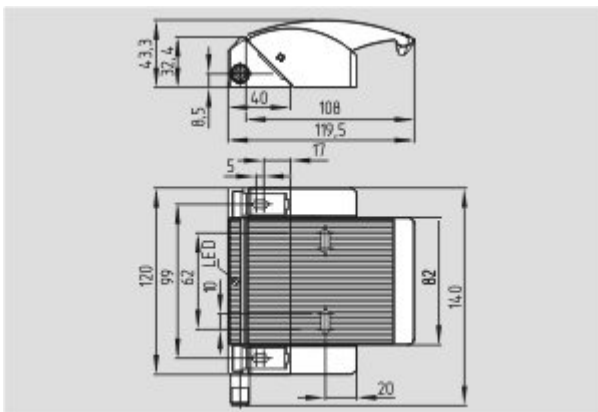
## Images

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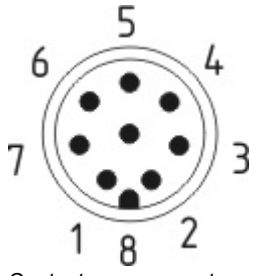


Product photo

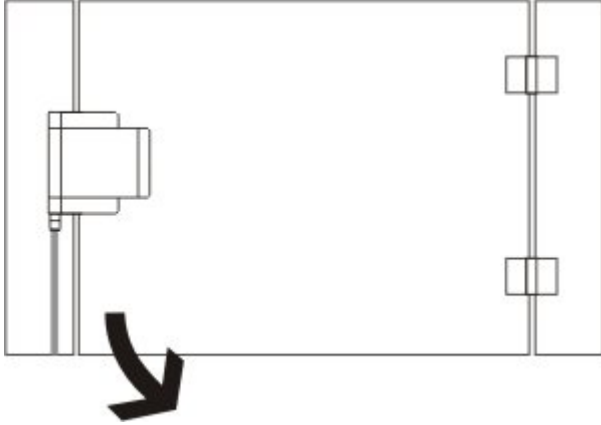
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Dimensional drawing (basic component)



Contact arrangement



Clipart

## System components

### Actuator



101177737 - BNS-B20-B01

### Connector



A-K8M12

- Pre-wired cable
- 8-pole