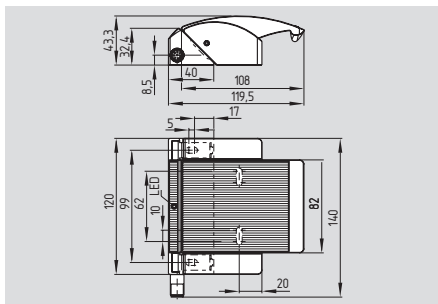


## Coded magnet safety sensors

### BNS-B20



- Thermoplastic enclosure
- Non-contact safety switch
- No protruding actuator, no risk of injury
- Does not protrude into the door opening
- Substitutes door-handle and safety switch, no further door fittings required
- Modern and symmetric design
- Fitted with four screws only
- Latching force of approx. 100 N
- Tamper-proof because of integral coded safety sensor
- LED indication
- Ergonomic operation
- Suitable for hinged and sliding guards
- AS-Interface Safety at Work available

### Technical data

Standards: IEC 60947-5-3;  
BG-GS-ET-14  
Enclosure: glass fiber reinforced thermoplastic  
Protection class: IP67 to EN 60529  
Connection: connector M12, 8-pole or cable LiYY 6 x 0.25 mm<sup>2</sup>  
Mode of operation: magnetic  
S<sub>ap</sub>: 0 mm  
S<sub>ar</sub>: 22 mm  
Switching conditions indicator: LED only for ordering suffix G

Switching voltage  
- with connector: max. 24 VDC  
- with connector and LED: max. 24 VDC  
- with cable: max. 110 VAC/DC  
- with cable and LED: max. 24 VDC  
Switching current  
- with LED: max. 10 mA  
- without LED: max. 250 mA  
Switching capacity  
- with LED: max. 240 mW  
- without LED: max. 3 W

Signalling contact  
- NO/NC connection: S31-S32  
- NC/NC connection: S13-S14

Safety contacts  
- NO/NC connection: S13-S14; S21-S22  
- NC/NC connection: S21-S22; S31-S32  
Ambient temperature: -25 °C ... +70 °C  
Storage and transport temperature: -25 °C ... +70 °C

Switching frequency: max. 5 Hz  
Resistance to shock: 30 g / 11 ms  
Resistance to vibration: 10 ... 55 Hz, amplitude 1 mm  
Max. door weight: hinged guard: 5 kg  
sliding guard: 3 kg

**Classification:**  
Standards: EN ISO 13849-1  
B<sub>10d</sub> (NC/NO): 25.000.000 for 20% contact load  
Mission time: 20 years

$$MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}} \quad n_{op} = \frac{d_{op} \times h_{op} \times 3600 \text{ s/h}}{t_{cycle}}$$

### Contact variants

**1 NO / 2 NC**  
(3) GY S13 — S14 PK (4)  
(1) GN S21 — S22 YE (2)  
(5) WH S31 — S32 BN (6)



**1 NO / 1 NC**  
(3) BK S13 — S14 BU (4)  
(1) WH S21 — S22 BN (2)



**2 NC**  
(3) BK S11 — S12 BU (4)  
(1) WH S21 — S22 BN (2)



### Approvals



### Ordering details

**BNS-B20-①Z②-③-④** Sensor

No.	Option	Description
①	12	1 NO / 2 NC
	11	1 NO / 1 NC
	02	2 NC
②		Without LED
	G	With LED
③		With bottom cable
	H	With rear cable
	ST	With bottom M12 connector
④	L	Left hand door *
	R	Right hand door *

\* Only for bottom cable or connector version

### Note

The safety sensor and the actuator must be ordered separately.

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

The BNS-B20 can be connected to:

- safety monitoring relays with NO/NC inputs, the remaining NC contact can be used as signalling contact
- safety monitoring relays with NC/NC inputs, the remaining NO contact can be used as signalling contact.

### Note

Contact S21-S22 must always be integrated in the safety circuit.

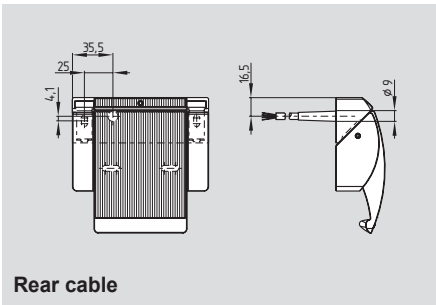
Contact symbols shown for the closed condition of the guard device.

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

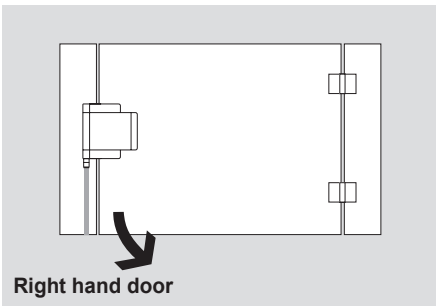
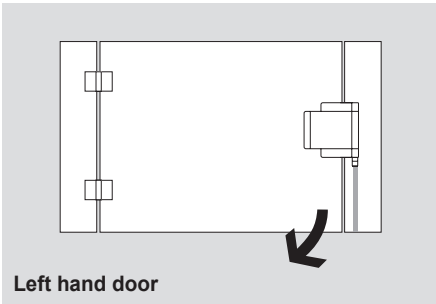
The LED is illuminated when the guard door is closed.

## Coded magnet safety sensors

### System components



### System components



### Ordering details

Rear cable **Ordering suffix -H**  
 Left hand door **Ordering suffix -L**  
 Right hand door **Ordering suffix -R**

### Ordering details

Actuator **BNS-B20-B01**  
 The safety sensor and the actuator must be ordered separately.  
 Connector M12, 4-pole without cable **101209950**  
 with cable 5 m **101208523**  
 Connector M12, 8-pole with cable 5 m **101209967**