

## Safety door-handle switch BNS-B20

The door-handle with integrated safety switch



**SCHMERSAL**

## Safety door-handle switch BNS-B20



### Applications

The safety door-handle switch BNS-B20 with integrated magnetic safety sensor can be used in safety circuits to monitor the position of movable separating guards. The safety sensor monitors the closed position of the guard. It is suitable for light up to medium heavy hinged and sliding guards.

The integral door fittings, consisting of a door-handle and a magnetic latch, allow for a solid latching of the closed guard.

### Mounting information

The safety door-handle switch BNS-B20 is especially developed for 40 mm aluminium profiles. Its symmetric structure allows for a quick and easy fitting to right-hand and left-hand doors, with only four screws. The sensor is not protruding beyond the profile.

The elongated holes in the actuator and the sensor enable a smooth and easy adjustment of both components.

The device can be quickly connected to a safety control module through the connector.

### Operating principle

The safety door-handle switch BNS-B20 consists of two components: the actuator and the sensor.

The holding force of the latching magnets, which are integrated in the actuator, exceeds 100 N. The latching magnets attract two pole sheets in the sensor housing. The lever arm ratio of the actuator considerably reduces the force required to open the guard.

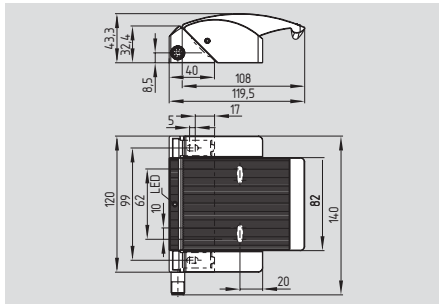
Two other magnets in the actuator actuate the reed contact combination in the sensor housing. The combination of reed contacts and magnets ensures that the sensor is highly tamper-proof.

The ergonomic actuator allows for a smooth operation of the BNS-B20 both on sliding and hinged guards. Protruding elements were conscientiously avoided in the design. In this way, unintended opening of the guard is almost completely excluded.

Furthermore, the design of the safety door-handle switch BNS-B20 and especially the absence of mechanical actuators reduce the risk of injury.

# Safety door-handle switch

## BNS-B20



- 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
- Connector
- Tamper-proof because of integral coded safety sensor
- LED indication
- Ergonomic operation
- Suitable for hinged and sliding guards
- Up to control category 4 to EN 954-1
- Up to PDF-M to IEC 60947-5-3
- AS-Interface Safety at Work version also available

### Approvals

in preparation



### Ordering details

No.	Replace	Description
BNS-B20-①-ST-②	Sensor	
BNS-B20-B-01	Actuator	
①	12zG	1 NO / 2 NC , LED in NC circuit
	AS	AS-Interface Safety at Work
②	L	For left-hand doors
	R	For right-hand doors

### Technical data

Standards: IEC 60947-5-3, BG-GS-ET-14  
 Enclosure: Glass-fibre reinforced thermoplastic  
 Protection class: IP 67  
 Termination: Connector M12x1  
 Operating principle: Magnetic  
 Control category: Up to 4 to EN 954-1  
 only in combination with  
 AES safety control module  
 Classification: Up to PDF-M to IEC 60947-5-3  
 only in combination with  
 AES safety control module

S<sub>ao</sub>: 0 mm  
 S<sub>ar</sub>: 22 mm  
 Indication of the switching condition: LED;  
 illuminated when guard is closed

Max. switching voltage: 24 VDC  
 Max. switching current: 10 mA  
 Max. switching capacity: 240 mW  
 Ambient temperature: -25°C ... +70°C  
 Storage and transport temp.: -25°C ... +70°C  
 Switching frequency: < 1 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

#### AS-Interface Safety at Work:

Standards: EN 50295, EN 60947-5-1  
 EN 954-1  
 AS-Interface operating voltage: 26.5 ... 31.6 VDC,  
 via AS-Interface,  
 reverse-polarity proof  
 AS-Interface operating current: ≤ 50 mA  
 AS-Interfacespecification: Profile: S-0.B  
 IO-Code: 0x0  
 ID-Code: 0xB  
 ID-Code2: 0xE

Inputs:

Contact	Status	Data bits
1	on	D0/D1 = dynamic code transmission
1	off	D0/D1 = static code "00"
2	on	D2/D3 = dynamic code transmission
2	off	D2/D3 = static code "00"

Input module address: default on address 0  
 Indications:  
 AS-Interface : voltage LED green  
 communication LED red  
 Enabling status: LED yellow

### Note

Loads with high switch-on and switch-off voltage spikes must be suppressed by means of an appropriate protective circuit.

#### AS-Interface Safety at Work:

A separate address jack is not available as an option. The addressing must take place via the M12 connector, 4 pins.



- 1: AS-Interface +
- 2: spare
- 3: AS-Interface -
- 4: spare

### System components



Connector plug M 12 x 1 (with case)

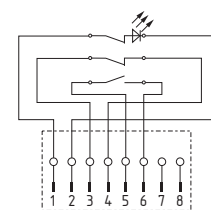
### Ordering details

Connector plug M 12 x 1  
 8 pins / 5m cable:

1178451

#### PIN configuration:

Connector M12, 8 pins



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