

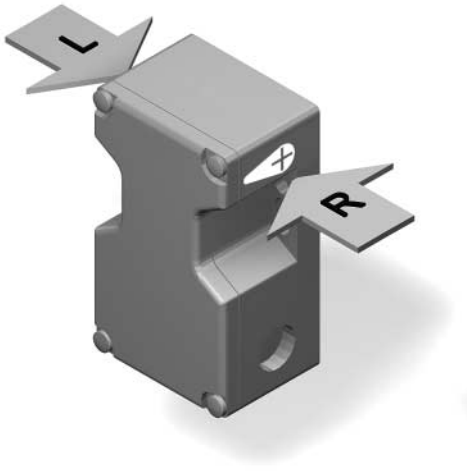
# Safety sensor BNS 16 LR for two safety guards



**SCHMERSAL**

# Safety sensor for two safety guards

## Actuating planes



## Notes for use

The BNS 16 LR type completes the BNS 16 safety sensors range. As any BNS sensor without integral monitoring module, the BNS 16 LR must also be connected to a safety-monitoring module when being used for safety applications to EN 60947-5-3.

In combination with the safety-monitoring module, the BNS 16 LR safety sensor meets the requirements of up to control category 4 to EN 954-1 or of PDF-M to EN 60947-5-3. SRB / AES safety-monitoring modules are suitable for use with safety sensors of the BNS range.

Apart from the antivalent safety contacts, an integrated signalling contact signals the position of both actuators.

## Range of application

The BNS 16 LR safety sensor serves to monitor the position of two sliding, hinged or removable safety guards. To this end, the safety sensor has an active zone at both lateral faces of the enclosure. The enabling signal is given when both sides are actuated.

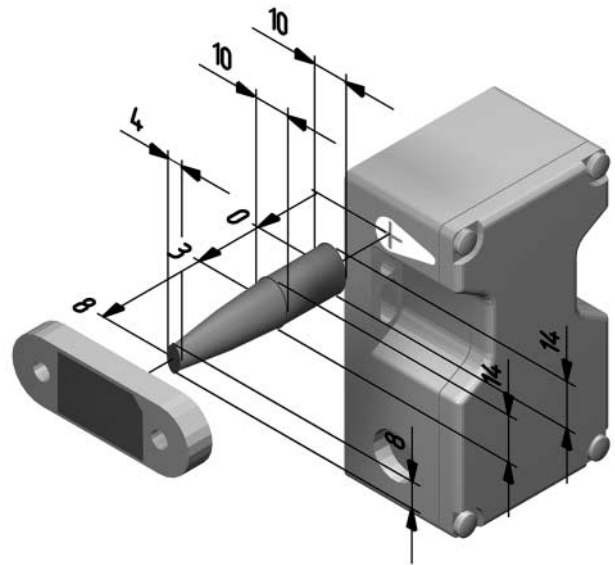
## Wide range of applications

The mounting dimensions of the robust enclosure are identical to the sturdy body of the mechanical safety switches. The closed housing is suitable for hygienic applications and insensitive to soiling. Since there is no mechanical wear, the sensor has a long life, which makes it suitable for applications where high switching frequencies are required.

The BNS 16 LR safety sensor offers the facility for concealed mounting under non-magnetic materials. Working surfaces and storage areas can be arranged without the need for dust-collecting edges or other functionally required cutouts or projections. The large switching distance and the available axial displacement simplify the adjustment. In this way, both BPS 16 actuators can be flexibly installed, regardless of the local conditions.

Screw terminals and a sufficiently large wiring compartment facilitate the connection of the sensor. The M 20 x 1.5 cable entries in different directions cable used for wiring.

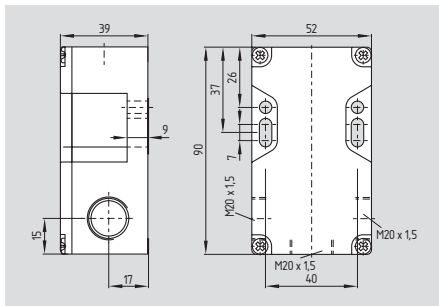
## Axial displacement



Further information with regard to non-contact guard monitoring with detailed information about standardisation, classification, the use and the operating principle of the system can be obtained upon request. The expert brochure "Safety system BNS/AES" is available on request as well.

# Safety sensor for two safety guards

## BNS 16 LR



- Actuation from both sides
- Fit for double guards
- Thermoplastic enclosure
- Protection against defeat
- Long life, no mechanical wear
- Concealed mounting possible
- Tolerant against misalignment
- Protection class IP 67
- Fixing dimensions identical to BNS 16, AZ 16
- Large wiring compartment
- Suitable for use with SRB / AES safety-monitoring modules
- Control category 4 / PDF-M, when used with an appropriate safety-monitoring module

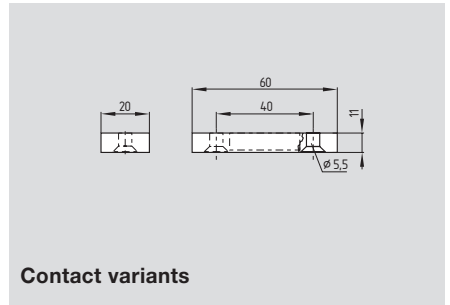
## Technical data

Standards: IEC/EN 60947-5-3, BG-GS-ET-14  
 Design: rectangular  
 Enclosure: glass-fibre reinforced thermoplastic, auto-extinguishing  
 Protection class: IP 67 to EN 60529  
 Termination: screw terminals  
 Cable section: 2 x 1,5 mm<sup>2</sup> (incl. conductor ferrules)  
 Cable entries: 3 x M20 x 1,5  
 Operating principle: magnetic, non-contact, through coded actuator  
 Actuating magnet: 2 x BPS 16, coded  
 Control category: up to control category 4 to EN 954-1 in combination with an appropriate safety-monitoring module  
 Classification: PDF-M to IEC 60947-5-3 in combination with an appropriate safety-monitoring module

**Switching distances:\***  
 Assured operating distance  $S_{ao}$ : 8 mm  
 Assured release distance  $S_{ar}$ : 18 mm  
 Max. switching voltage: 100 VAC/DC  
 Max. switching current for the safety and signalling contacts: max. 400 mA  
 Max. switching capacity for the safety and signalling contacts: max. 10 VA/W  
 Ambient temperature: -25 °C ... +70 °C  
 Storage and transport temperature: -25 °C ... +70 °C  
 Max. switching frequency: 5 Hz  
 Resistance to shock: 30 g / 11 ms  
 Resistance to vibrations: 10 .. 55 Hz, Amplitude 1 mm

\* Switching distances  $S_{ao}$ ,  $S_{ar}$  when no ferromagnetic material is present in the vicinity of the sensor or actuator.

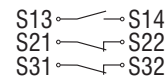
## System components



### Contact variants

## Contact variants

**Safety contacts:** 1 NO/1 NC  
**Signalling contact:** 1 NC



## Approvals



## Ordering data

**BNS 16-12zLR** Safety sensor with left-hand side and right-hand side actuating direction

**2x BPS 16** 2 actuators (not included in delivery!)

## Note

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

## Note

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

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