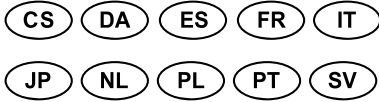




EN Operating instructions ..... pages 1 to 2  
Original



Detailed user information at  
products.schmersal.com.

## 1. About this document

This document provides all the information you need for the mounting, set-up and commissioning to ensure the safe operation and disassembly of the switchgear. The operating instructions enclosed with the device must always be kept in a legible condition and accessible.

All operations described in the operating instructions manual must be carried out by trained specialist personnel, authorised by the plant operator only.

Please make sure that you have read and understood these operating instructions and that you know all applicable legislations regarding occupational safety and accident prevention prior to installation and putting the component into operation.

The user must observe the safety instructions in this operating instructions manual, the country specific installation standards as well as all prevailing safety regulations and accident prevention rules.

The information contained in this operating instructions manual is provided without liability and is subject to technical modifications.

The Schmersal range of products is not intended for private consumers.

## 2. Product description

### 2.1 Purpose and use

The safety switches are used for applications, in which the hazardous situation is terminated without delay when the safety guard is opened.

### 2.2 Warning about misuse



In case of improper use or manipulation of the safety switchgear, personal hazards or damages to machinery or plant components cannot be excluded. There are no residual risks, provided that the safety instructions as well as the instructions regarding mounting, commissioning, operation and maintenance are observed.

### 2.3 Exclusion of liability

We shall accept no liability for damages and malfunctions resulting from defective mounting or failure to comply with the operating instructions manual. We shall accept no liability for damages or malfunctions resulting from defective mounting or failure to comply with this operating instructions manual.

For safety reasons, invasive work on the device as well as arbitrary repairs, conversions and modifications to the device are strictly forbidden, the manufacturer shall accept no liability for damages resulting from such invasive work, arbitrary repairs, conversions and/or modifications to the device.

## 2.4 Technical data

### General data

Standards EN IEC 60947-5-3

Working principle Magnetic drive

Coding level according to EN ISO 14119 Low

Degree of protection IP67

Assured switching distance  $s_{ao}$  5 mm,  
8 mm (ordering suffix -2750)

Assured switch-off distance  $s_{ar}$  15 mm,  
18 mm (ordering suffix -2750)

Switching frequency, maximum 5 Hz

### Safety classification

Standards EN ISO 13849-1

$B_{10D}$ -value, NC contact 25,000,000 operations

$B_{10D}$ -value, NC/NO contact 25,000,000 operations

Mission time 20 years

### Electrical data

Switching voltage without/with LED max. 75 VDC / max. 24 VDC

- version with connector M8: max. 30 V

Switching current without/with LED max. 400 mA / max. 10 mA

Switching capacity without/with LED max. 10 VA / max. 240 mW

Required rated short-circuit current 100 A

## 3. Assembly

### 3.1 General mounting instructions



During fitting, the requirements of EN ISO 14119 must be observed.

- Fitting is only authorised in a de-energised condition
- Do not use the sensor and the actuator as a mechanical backstop
- Any mounting position, provided that the active surfaces are opposite
- Do not subject the safety sensor and actuator to extreme vibrations and shocks.

To avoid any interference inherent to this kind of system and any reduction of the switching distances, please observe the following guidelines:

- Ensure the safety sensor is mounted on a flat surface
- Do not install the safety sensor and the actuator in strong magnetic fields
- If possible, do not mount the sensor and the actuator on ferromagnetic material. A non-magnetic spacer of at least 5 mm thick or the original spacer must be used. The use of non-magnetic fixing screws is recommended also.
- Keep away from metal chips
- The mounting distance between two sensors should always be at least 50 mm



The actuator must be permanently fitted to the safety guards and protected against displacement by suitable measures (tamperproof screws, gluing, drilling of the screw heads).

### 3.2 Adjustment



#### Recommended Adjustment

Align the safety sensor and actuator at a distance of  $0.5 \times s_{ao}$ .

Align the central markings of the safety sensor and the actuator with each other. The LED can only be used as rough setting tool. The correct functionality of both safety channels must be checked by means of the connected safety-monitoring module.

### 4. Electrical connection

#### 4.1 General information for electrical connection



The electrical connection may only be carried out by authorised personnel in a de-energised condition.

#### 4.2 Contact Options

The safety sensors must be wired in accordance with the wire colours or the pin configuration.

The contact position shows the actuated sensor function when the safety guard is closed. For safety sensors with LED, the LED is illuminated when the safety guard is closed. The contact configurations of the versions with or without LED are identical.

Safety contacts: S21-S22 und S11-S12 bzw. S13-S14  
Signalling contact: S31-S32

The numbers between brackets indicate the PIN configuration of the versions with connector plug or connecting cable with connector; indication of the wire colours for the version with cable.

#### BNS 260-02Z(G)

(3) BK S11 (4)  
(1) WH S21 (2)

#### BNS 260-11Z(G)

(3) BK S13 (4)  
(1) WH S21 (2)

#### BNS 260-02/01Z(G)

(3) GY S11 (4)  
(1) GN S21 (2)  
(5) WH S31 (6)

#### BNS 260-11/01Z(G)

(3) GY S13 (4)  
(1) GN S21 (2)  
(5) WH S31 (6)

### 5. Set-up and maintenance

The safety function of the safety components must be tested. In the case of correct installation and adequate use, the safety switchgear features maintenance-free functionality. A regular visual inspection and functional test, including the following steps, is recommended:

1. Check fixation of the safety switch and the actuator.
2. Fitting and integrity of the cable connections.
3. The system is free of dirt and soiling (in particular metal chips).



Adequate measures must be taken to ensure protection against tampering either to prevent tampering of the safety guard, for instance by means of replacement actuators.



Damaged or defective components must be replaced.

### 6. Disassembly and disposal

#### 6.1 Disassembly

The safety switchgear must be disassembled in a de-energised condition only.

#### 6.2 Disposal



The safety switchgear must be disposed of in an appropriate manner in accordance with the national prescriptions and legislations.

### 7. Declaration of conformity

We hereby certify that the hereafter described components both in their basic design and construction conform to the applicable European Directives.

#### Relevant Directives:

2006/42/EC SI 2008/1597  
2011/65/EU SI 2012/3032

#### Applied standards:

EN 60947-5-3:2013  
 EN ISO 14119:2013



The currently valid declaration of conformity can be downloaded from the internet at [products.schmersal.com](http://products.schmersal.com).

### 8. Contact

#### K.A. Schmersal GmbH & Co. KG

Möddinghofe 30, 42279 Wuppertal  
Germany

Telephone: +49 202 6474-0  
Fax: +49 202 6474-100  
E-Mail: [info@schmersal.com](mailto:info@schmersal.com)  
Internet: [www.schmersal.com](http://www.schmersal.com)