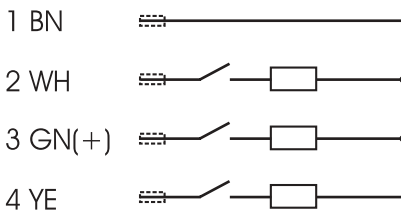


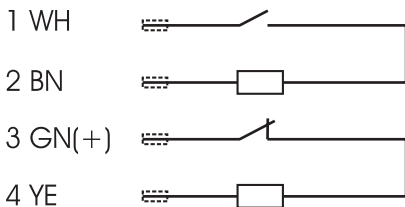


- (D) Betriebsanleitung**  
**Maschinensicherheitssensoren 120271, 12261**
- (GB) Operating instructions**  
**Machine safety sensors 120271, 12261**
- (F) Notice d'utilisation**  
**Capteurs de sécurité pour machines**  
**série 120271, 12261**
- (I) Istruzioni d'impiego**  
**Sensori di sicurezza per macchine**  
**serie 120271, 12261**

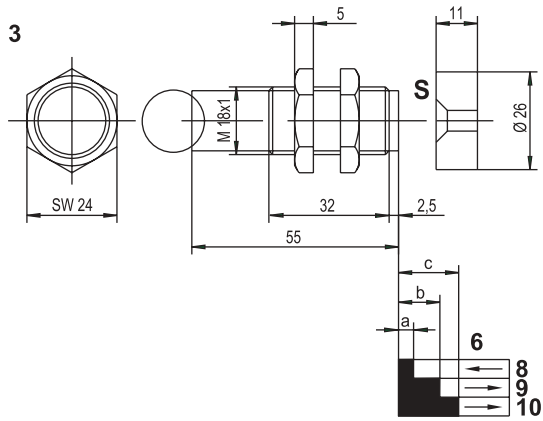
**1**



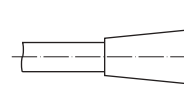
**2**



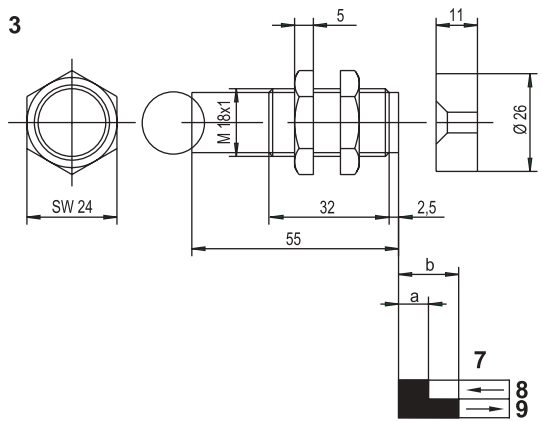
3



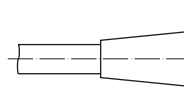
4



3



5



# 1 Technical Specification

## 1.1 General

The foldout shows the various contact configurations and the mechanical data for the various model options.

### Contact configurations

1. Base model 120 261
2. Base model 120 271

### Mechanical Data

3. Mechanical details of the various base models

### Connection to the various models

4. Cable LIYY 3 x 0.25 mm<sup>2</sup>
5. Cable LIYY 4 x 0.25 mm<sup>2</sup>

### Switching options

6. Switching characteristics for base model 120 271
7. Switching characteristics for base model 120 261

### Switching functions

8. On
9. Off
10. Off (both contacts changed state allowing re-start)

The different features of the various base models are described in these instructions. Individual data sheets are available, on request, from elobau.

## 1.2 Electrical specification

Supply voltage (V DC)	24
Switched current (mA)	100 (max.)
Series resistor (Ohm)	22
Switching capacity (W)	3
Shock resistance (Hz/g)	10 ... 2000/35
Protection class	IP 67 (IEC 529)

## 1.3 Mechanical specification

Housing material	Fibreglass reinforced PBT (Pocan)
Temperature range (°C)	-25 ... 75

## 1.4 Actuating magnets

Possible actuating magnets	300 785
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**Air gap (mm) (switching distance) for safe switching function (basic models only):**

	MIN.	ON	OFF	OFF *
	N	N	N	N
120 271	0,5	13	23	35
120 261	0,5	13	23	

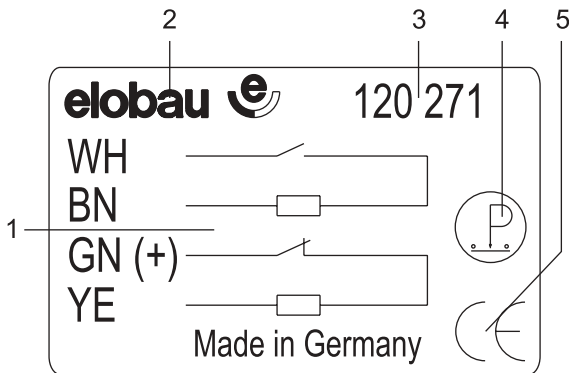
N Normal

\* Both contacts change state

MIN. Minimum air gap

## 1.5 Identification

The machine safety sensors are marked with the following information.



1. Contact format
2. elobau logo
3. Type no.
4. Personal protection symbol
5. CE mark

## **2 Intended use**

### **2.1 Area of application**

- The machine safety sensors should only be used as specified by the manufacturer.  
Should they be used incorrectly, all guarantees and liabilities of the manufacturer will be void.
- Ensure that the safety regulations of the individual machines are complied with.
- Ensure that International, European and National regulations are adhered to.

### **2.2 Standards and Guidelines**

The machine safety sensors are approved according to the Low Voltage Directive 73/23/EWC and Machine Directive 89/392/EEC.

## 2.3 Safety/hazards

- For personnel protection when used in conjunction with an approved safety assessment.
- Only operate the machine safety sensors if they are totally undamaged.

# 3 Function

## 3.1 Function

These non contacting machine safety sensors utilise reed contacts. A control unit monitors the sensor for all open and short circuits. A coded magnet is used to operate the sensor without making physical contact.

- Observe regulations for personnel safety.

When the standard actuating magnet is moved towards and away from the sensor (see Actuating magnets), the following takes place:

<i>Distance</i>	<i>Control unit</i>
$\leq a$ and $\geq 0.5$ mm	On
$\geq b$	Off (cannot be switched on from this position)
$\geq c$	Off (can be switched on again)

## 3.2 Models

The machine safety sensors mainly differ in their contact formats (see contact configurations on the inside of the foldout):

<i>Model</i>	<i>Contact configuration</i>
120 261	Three Normally Open contacts, 4 wire
120 271	Normally Open/Normally Closed contacts, 4 wire

The machine safety sensors are divided into catalogue models and customer specific models. The catalogue versions are based on the above base models.

### Examples

Base model: 120 271

Catalogue model: 120 271 AY

Customer-specific model: 120 271 AY01

For other differences see Technical Specification.

These machine safety sensors are suitable for use with the following elobau control units:

### Three Normally Open contacts, 4 wire

- 462 151 G
- 463 13.

### Normally Open/Normally Closed contacts, 4 wire

- 462,121 E1
- 462 121 G1
- 462 121 H
- 463 12.

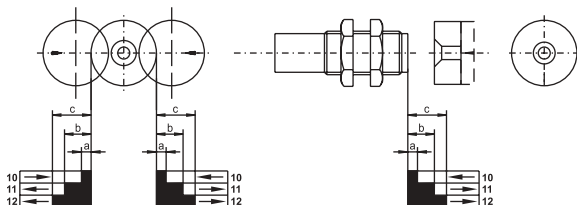
For appropriate combinations of machine safety sensor systems and control units see Models.

## 4 Mounting

### 4.1 Mounting

- Ensure that both the sensor and the actuation magnet are facing each other.  
Any mounting arrangement is acceptable.
- Do not install sensor and magnet on ferrous material. Where necessary, use a 20 mm non ferrous spacer.
- Use non ferrous screws for mounting the actuation magnet. The plastic socket head screw insert 351040 can be used with countersunk screws to DIN 7991/M5 to prevent easy removal.
- Ensure that the sensor and actuating magnet are not installed in the presence of strong magnetic fields.
- Keep away from ferrous swarf.
- Ensure that sensors and actuating solenoid are not used as mechanical stops.
- Ensure that the mounting distance between two sensors is at least 50 mm.

- ☞ Take note of the mounting tolerance  $\pm 2,0$  mm as shown below:



The unit is triggered:

- ☞ When magnet approaches directly
- ➔ When magnet approaches laterally

## 4.2 Connection

The sensors are connected either by fixed cable or by cable with plug & socket (see Technical Specification).

- ☞ Observe the specified limits.
- ☞ Protect the cables from mechanical damage.

## 4.3 Commissioning

- Ensure that the guards equipped with the machine safety sensors are only operated by trained personnel.
- Ensure that the machine safety sensors are being used in the correct manner (see Intended use).

# 5 Maintenance

## 5.1 Measures

- Do not modify the machine safety sensors.
- Only replace failed units with original spare parts, approved for use.
- Determine suitable inspection intervals depending upon the application and the working environment.

## 5.2 Disposal

- Dispose of used parts and unwanted packaging in accordance with the regulations of the country in which the device is installed.



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