# PSEN cs5.11 M12/8

PSEN sensor technology

Operating Manual-1003421-EN-01

This document is the original document.

All rights to this documentation are reserved by Pilz GmbH & Co. KG. Copies may be made for internal purposes. Suggestions and comments for improving this documentation will be gratefully received.

Pilz®, PIT®, PMI®, PNOZ®, Primo®, PSEN®, PSS®, PVIS®, SafetyBUS p®, SafetyEYE®, SafetyNET p®, the spirit of safety® are registered and protected trademarks of Pilz GmbH & Co. KG in some countries.

SD means Secure Digital

| | |
|---|---|
| **Introduction** | **5** |
| Validity of documentation | 5 |
| Using the documentation | 5 |
| Definition of symbols | 5 |
| **Safety** | **6** |
| Intended use | 6 |
| Safety regulations | 7 |
| Safety assessment | 7 |
| Use of qualified personnel | 7 |
| Warranty and liability | 7 |
| Disposal | 7 |
| For your safety | 8 |
| **Unit features** | **8** |
| **Function description** | **8** |
| Block diagram | 9 |
| Operating distances | 10 |
| Lateral offset when aligning to the triangle marking | 11 |
| Lateral offset when aligning to the triangle marking | 12 |
| **Wiring** | **13** |
| Pin assignment, connector and cable | 13 |
| **Connection to evaluation devices** | **14** |
| **Teaching in the actuator** | **17** |
| **Installation** | **18** |
| **Adjustment** | **20** |
| **Operation** | **20** |
| Normal mode | 20 |
| Error display | 21 |
| **Dimensions in mm** | **22** |
| **Technical details** | **23** |
| Safety characteristic data | 26 |
| **Supplementary data** | **26** |
| Radio approval | 26 |
| **Order reference** | **27** |
| System | 27 |
| Accessories | 27 |

**EC declaration of conformity** **27**

# Introduction

## Validity of documentation

This documentation is valid for the product PSEN cs5.11 M12/8. It is valid until new documentation is published.

This operating manual explains the function and operation, describes the installation and provides guidelines on how to connect the product.

## Using the documentation

This document is intended for instruction. Only install and commission the product if you have read and understood this document. The document should be retained for future reference.

## Definition of symbols

Information that is particularly important is identified as follows:

**DANGER!**

This warning must be heeded! It warns of a hazardous situation that poses an immediate threat of serious injury and death and indicates preventive measures that can be taken.

**WARNING!**

This warning must be heeded! It warns of a hazardous situation that could lead to serious injury and death and indicates preventive measures that can be taken.

**CAUTION!**

This refers to a hazard that can lead to a less serious or minor injury plus material damage, and also provides information on preventive measures that can be taken.

**NOTICE**

This describes a situation in which the product or devices could be damaged and also provides information on preventive measures that can be taken. It also highlights areas within the text that are of particular importance.

**INFORMATION**

This gives advice on applications and provides information on special features.

## Safety

### Intended use

The safety functions of the safety switch are:

- safe detection of the presence of the actuator
- 2 safety inputs for series connection of multiple safety sensors
- 2 safety outputs, each of which supply a high signal when the actuator is in the switch's response range.

The safety switch meets the requirements in accordance with:

- EN 60947-5-3 with the actuator PSEN cs5.11 M12 : PDDB
- EN 62061: SIL CL 3
- EN ISO 13849-1: PL eCat. 4
- EN ISO 14119

The safety switch may only be used with the corresponding actuator PSEN cs5.11 M12.

The safety level PL e (Cat. 4 )/SIL CL 3 is only achieved if

- the safety outputs use 2-channel processing.

The following is deemed improper use in particular:

- Any component, technical or electrical modification to the product
- Use of the product outside the areas described in this manual
- Use of the product outside the technical details (see chapter entitled "Technical Details").

**NOTICE**

EMC-compliant electrical installation

The product is designed for use in an industrial environment. The product may cause interference if installed in other environments. If installed in other environments, measures should be taken to comply with the applicable standards and directives for the respective installation site with regard to interference.

## Safety regulations

### Safety assessment

Before using a unit it is necessary to perform a safety assessment in accordance with the Machinery Directive.

Functional safety is guaranteed for the product as a single component. However, this does not guarantee the functional safety of the overall plant/machine. In order to achieve the required safety level for the overall plant/machine, define the safety requirements for the plant/machine and then define how these must be implemented from a technical and organisational standpoint.

### Use of qualified personnel

The products may only be assembled, installed, programmed, commissioned, operated, maintained and decommissioned by competent persons.

A competent person is someone who, because of their training, experience and current professional activity, has the specialist knowledge required to test, assess and operate the work equipment, devices, systems, plant and machinery in accordance with the general standards and guidelines for safety technology.

It is the company's responsibility only to employ personnel who:

- Are familiar with the basic regulations concerning health and safety / accident prevention
- Have read and understood the information provided in this description under "Safety"
- And have a good knowledge of the generic and specialist standards applicable to the specific application.

### Warranty and liability

All claims to warranty and liability will be rendered invalid if

- The product was used contrary to the purpose for which it is intended
- Damage can be attributed to not having followed the guidelines in the manual
- Operating personnel are not suitably qualified
- Any type of modification has been made (e.g. exchanging components on the PCB boards, soldering work etc.).

### Disposal

- In safety-related applications, please comply with the mission time $T_M$ in the safety-related characteristic data.
- When decommissioning, please comply with local regulations regarding the disposal of electronic devices (e.g. Electrical and Electronic Equipment Act).

**For your safety**

**DANGER!**

Risk to life due to manipulation / defeat of the safeguard

If replacement actuators are obtained, these must be installed as described in the chapter entitled Installation [📖 18].
If replacement actuators are used manipulatively or the function of the safeguard is defeated, there is a risk to life when operating the plant or machine! This must be considered in the operator's hazard assessment and the operator must define appropriate measures to exclude manipulation.

**DANGER!**

Strong magnetic field!

People with a pacemaker or implanted defibrillators must maintain a distance of at least 100 mm to the safety switch and actuator.

- Do not remove the protective cap until you are just about to connect the unit. This will prevent potential contamination.

## Unit features

- Transponder technology for presence detection (safety function)
- Coding: coded (measure to minimise defeat possibilities in accordance with ISO 14119)
- Dual-channel operation
- 2 safety inputs for series connection of multiple safety switches
- 2 safety outputs
- 1 signal output
- LED display for:
  - State of the actuator
  - State of the inputs
  - Supply voltage/fault
- 1 actuation direction with 3 approach directions (see Explanation of markings)
  - Square marking

## Function description

The safety outputs may have a high or low signal, depending on the position of the actuator and the signal status of the safety inputs.

**Electrical states of the safety inputs and outputs (when switch is ready for operation: DEVICE LED is green):**

| Actuator in the response range | Safety input S11 | Safety input S21 | Safety output 12 | Safety output 22 | Signal output Y32 |
|---|---|---|---|---|---|
| Yes | High | High | High | High | High |
| Yes | Low | Low | Low | Low | High |
| No | X | X | Low | Low | Low |
| Yes | High | Low | High | Low | High |
| Yes | Low | High | Low | High | High |

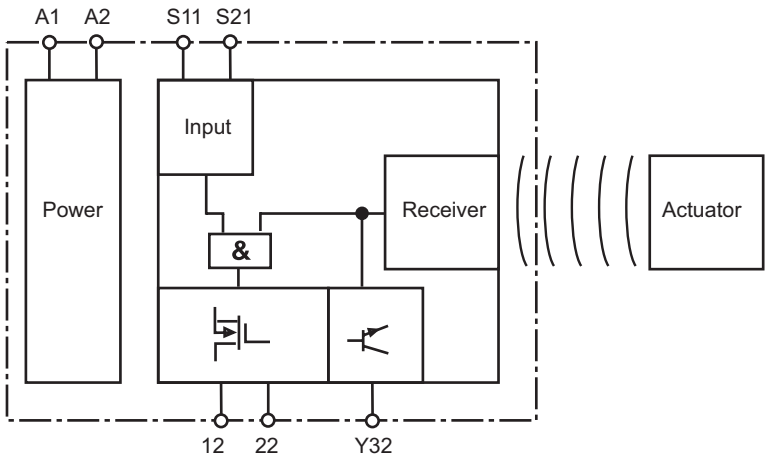
x: High or low signal

**Feasibility monitoring for safety inputs S11 and S21**

- If one safety input switches from high to low, while the other safety input remains high, an unequal status is displayed: **Input LED has quick yellow flashes and Device LED flashes red**
- If this safety input switches back from low to high, while the other safety input remains high, a feasibility error is displayed and a partial operation lock is triggered: **Input LED flashes yellow and Device LED flashes red**

A switch to a high signal will only lead to normal switch operation if both inputs had a low signal. From this moment on, the switch to high may occur (partial operation lock see Error display [📖 21]).

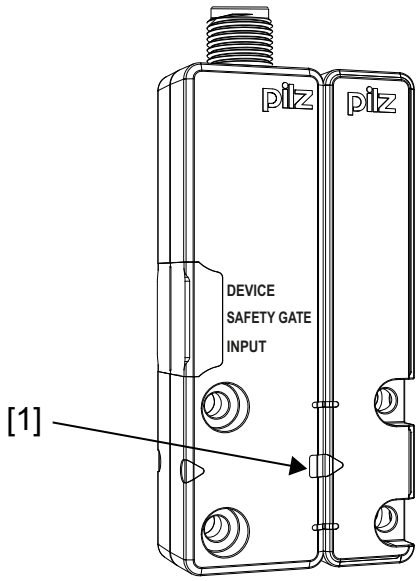
**Block diagram**



### Operating distances

**INFORMATION**

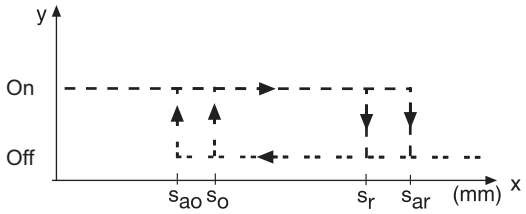
The guaranteed safe operating distances only apply when the actuator approaches the switch vertically. With other approach directions, the operating distances may be larger.




Actuator aligned to the square marking on the switch

Operating distances:

$S_{ao}$ Assured operating distance: 8 mm
$S_o$ Typical operating distance: 11 mm
$S_r$ Typical release distance: 14 mm
$S_{ar}$ Assured release distance: 20 mm



**Typical course of change in the holding force as the distance from the switch to the actuator increases with frontal approach**

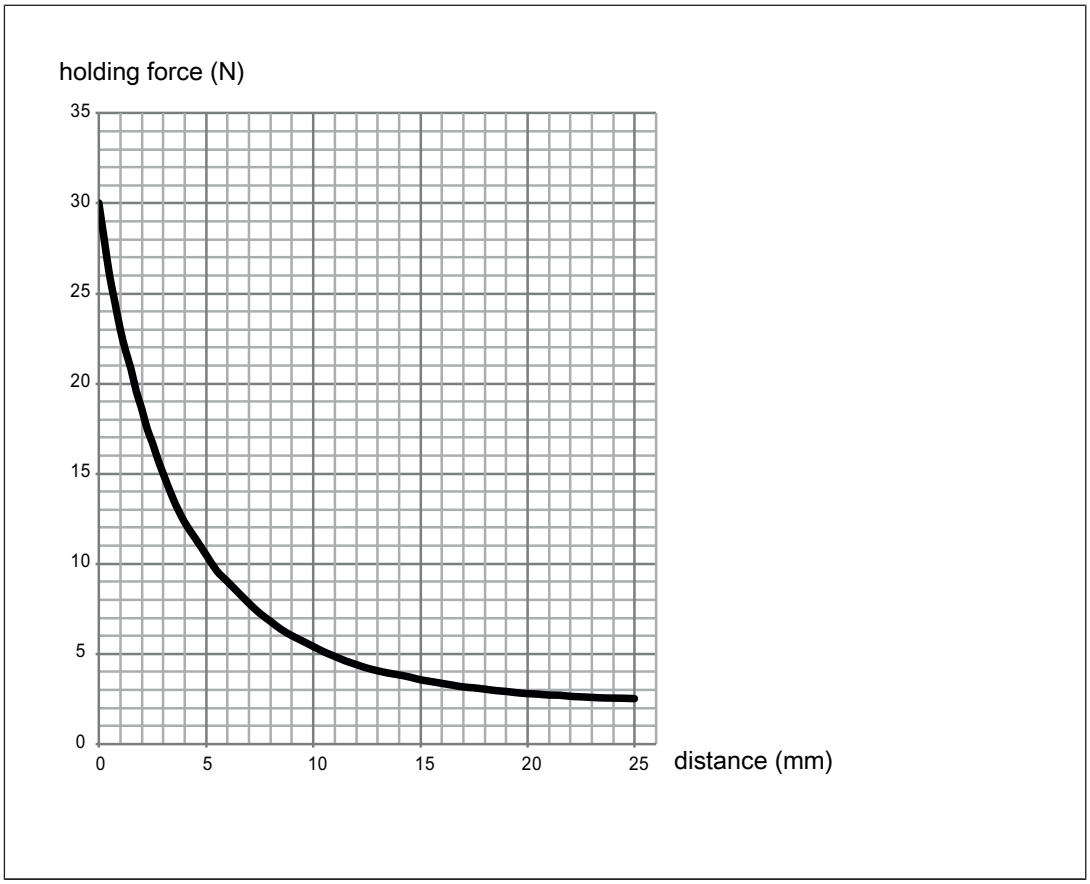
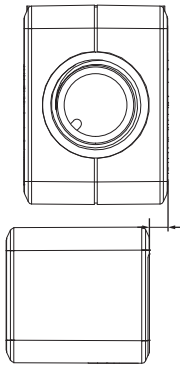
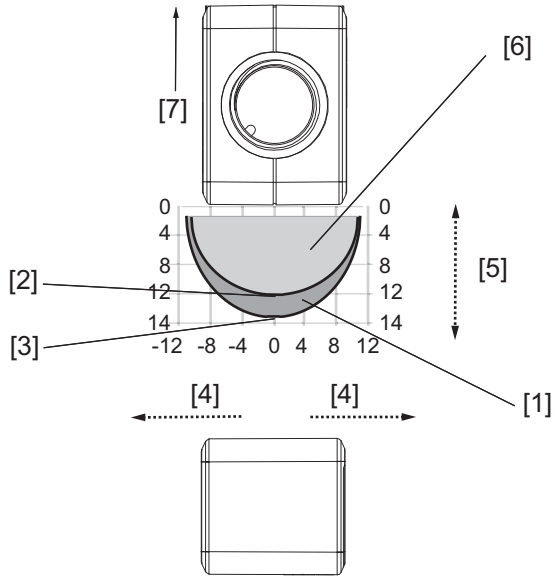



Fig.: Change in the holding force for distances from 0-25 mm

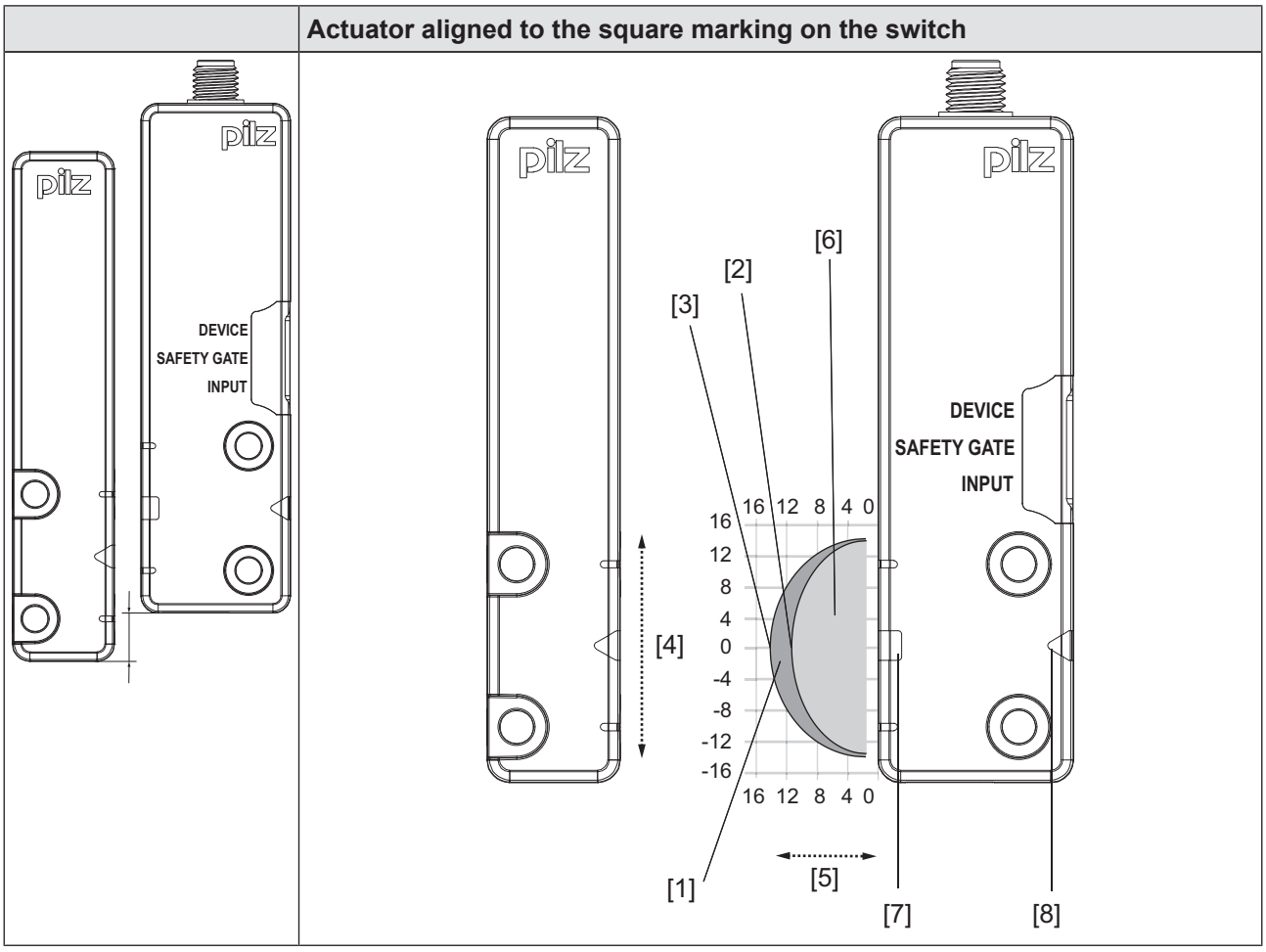
**Lateral offset when aligning to the triangle marking**

| | Actuator aligned to the square marking on the switch |
|---|---|
|  |  |

Legend

- [1]: Hysteresis
- [2]: Typical operating distance $S_o$
- [3]: Typical release distance $S_r$
- [4]: Offset in mm
- [5]: Operating distance in mm
- [6]: Response range
- [7]: Status of LED

**Lateral offset when aligning to the triangle marking**




Legend

- [1]: Hysteresis
- [2]: Typical operating distance $S_o$
- [3]: Typical release distance $S_r$
- [4]: Offset in mm
- [5]: Operating distance in mm
- [6]: Response range
- [7]: Square marking
- [8]: Triangle marking

## Wiring

Please note:

- Information given in the "Technical details" must be followed.
- The max. cable length $l_{max}$ in the input circuit is calculated from
  - the max. cable capacitance at the safety outputs (see Technical data [23]).
  - the minimum permitted supply voltage at the sensor (19.2 V).
- The power supply must meet the regulations for extra low voltages with protective separation (SELV, PELV).
- The inputs and outputs of the safety switch must have a protective separation to voltages over 60 VDC.

**INFORMATION**

Only use safety relays with a 24 VDC supply voltage. Safety relays with universal power supply or in AC device versions have internal potential isolation and are not suitable as evaluation devices.

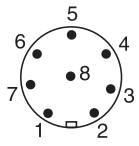
**CAUTION!**

Do not connect the signal output to 0 V!

If the signal output Y32 is connected to 0 V, the safety switch may be damaged as a result. Connect the signal output Y32 to a consumer, e.g. to the input on a control system, or leave the signal output unconnected.

- The supply voltage to the safety switch must be protected with a 2 A to 4 A quick-acting fuse.
- Ensure the EMC requirements of IEC 60204-1 are met.
- When connecting in series, make sure you comply with the wiring technology requirements (DIN EN 60204-1) and manipulation protection requirements (EN ISO 14119).

### Pin assignment, connector and cable

| | |
|---|---|
|  | 8 pin M8/M12 connector |

| PIN | Pin designation | Function | Wire colour |
|---|---|---|---|
| 1 | S21 | Input, channel 2 | white |
| 2 | A1 | +24 VUB | brown |
| 3 | 12 | Output, channel1 | Green |
| 4 | 22 | Output, channel2 | yellow |
| 5 | Y32 | Signal output | grey |

| PIN | Pin designation | Function | Wire colour |
|---|---|---|---|
| 6 | S11 | Input, channel 1 | Pink |
| 7 | A2 | 0 V UB | blue |
| 8 | - | Do not connect | red |

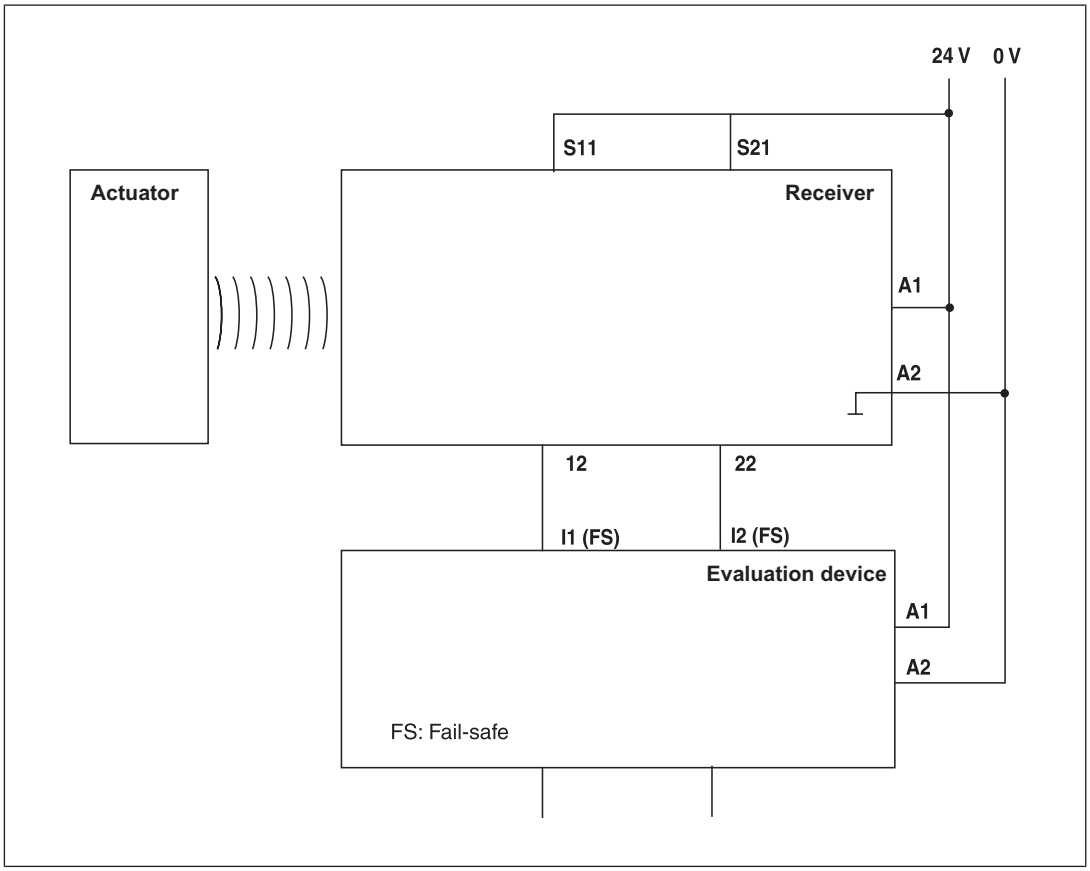
The wire colour also applies for the cable available from Pilz as an accessory.

## Connection to evaluation devices

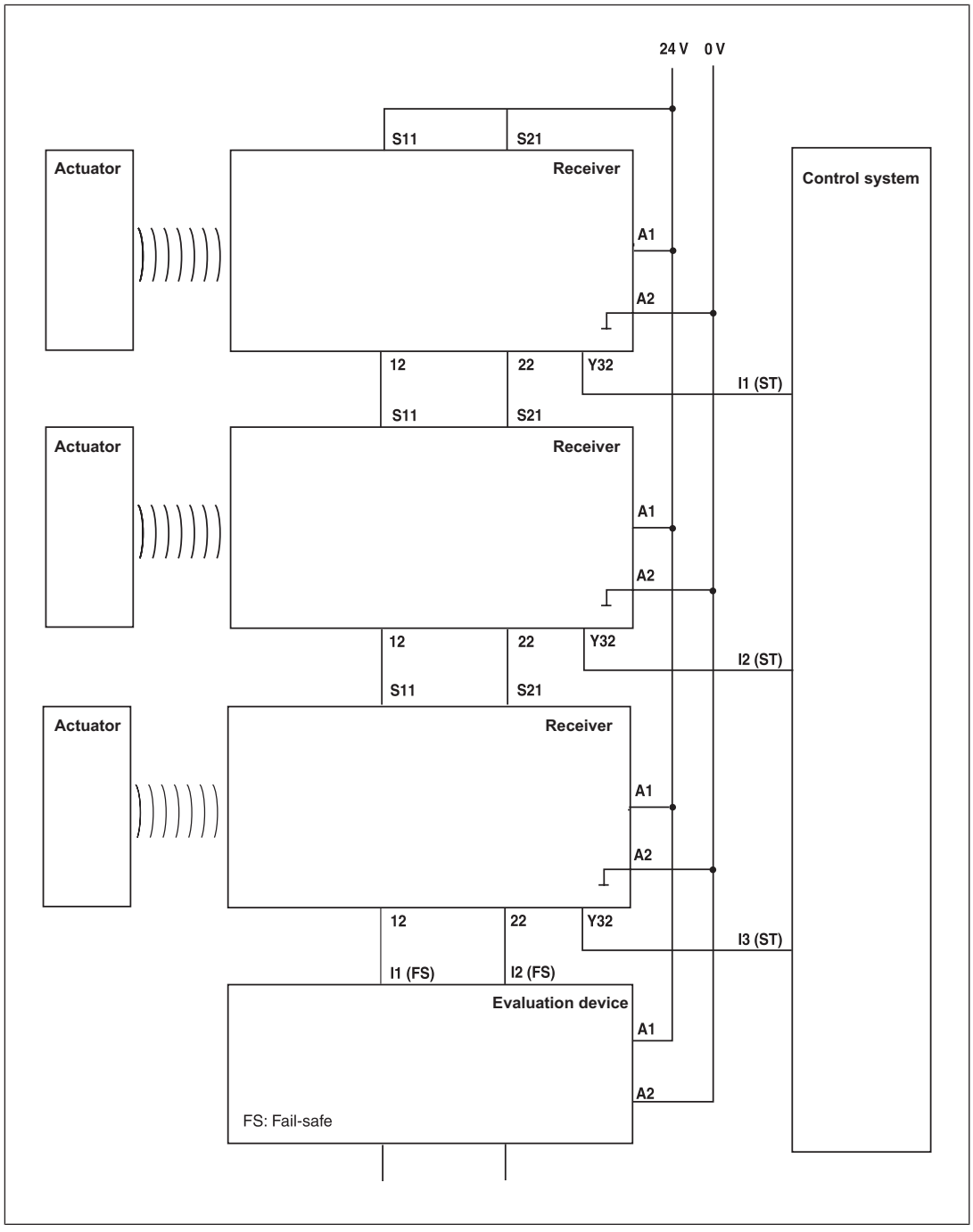
Make sure that the selected evaluation device has the following properties:

- Dual-channel with feasibility monitoring
- OSSD signals are evaluated

**Connection diagram, single connection**



## Connection diagram, series connection



**CAUTION!**

Extension of delay-on de-energisation

When several (n) devices are connected in series, the delay-on de-energisation time adds with the number of interconnected safety switches.
The max. delay-on de-energisation is made up of the
risk time (see Technical details [📖 23])
+ (n-1) x max. delay-on de-energisation of the inputs
+ max. delay-on de-energisation of the evaluation device

The safety sensors PSENcode are also suitable for series connection with other sensors. The series connection of maximum 32 sensors PSENcs 5.x and PSEN 6.x is approved for SIL CL 3 .

In practice, the maximum possible number will be limited by the following parameters, among others:

- The required SIL level (e.g. SIL CL 3),
- The required Performance Level (e.g. Cat. 4 / PL e),
- The maximum delay or risk time permitted by the application.

It's important to ensure there is sufficient supply voltage, taking inrush currents and fusing into consideration.

**Connection to Pilz evaluation devices**

The safety switch PSEN cs5.11 M12/8 can be connected to Pilz evaluation devices, for example. Make sure that an evaluation device is selected that can evaluate OSSD signals through two channels.

Suitable Pilz evaluation devices are, for example:

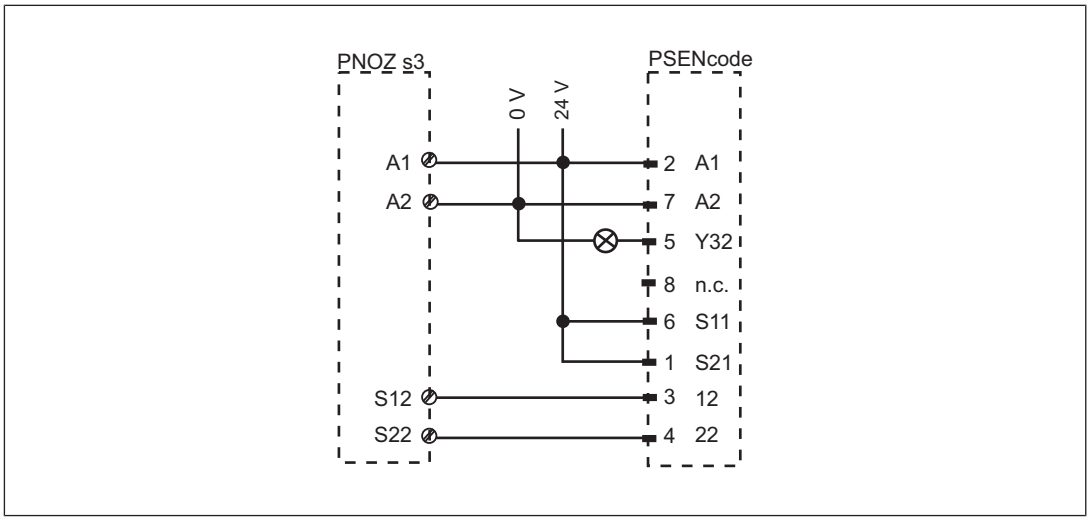
- PNOZelog for safety gate monitoring
- PNOZpower for safety gate monitoring
- PNOZsigma for safety gate monitoring
- PNOZ X for safety gate monitoring
- PNOZmulti for safety gate monitoring
  Configure the switch in the PNOZmulti Configurator with switch type 3.
- PSS for safety gate monitoring with standard function block SB064, SB066 or FS_Safety Gate

The correct connection to the respective evaluation device is described in the instructions for the evaluation device. Make sure that the connection is made in accordance with the specifications in the instructions for the selected evaluation device.

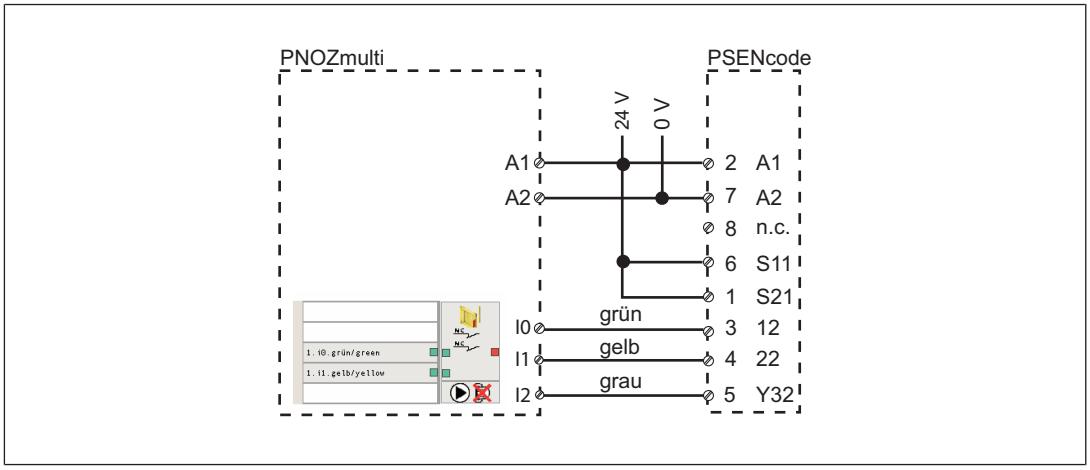
The connections to two evaluation devices are shown on the following pages, by way of example:

- PNOZ s3 and
- PNOZmulti

**PNOZ s3**




**PNOZmulti**




**Legend**:

| | |
|---|---|
| I0 | Input OSSD |
| I1 | Input OSSD |
| I2 | Signal input |

## Teaching in the actuator

Any Pilz actuator PSEN cs5.11 M12) is detected as soon as it is brought into the response range.

## Installation

**CAUTION!**

The unit's properties may be affected if installed in an environment containing electrically or magnetically conductive material. Please check the operating distances and the assured release distance.

- The safety switch and actuator should be installed opposite each other in parallel.
  Make sure that the actuator is aligned to the square marking on the sensor (see Operating distance [10]).
- Safety switches and actuators should only be secured using M4 screws with a flat head (e.g. M4 cheese-head or pan head screws).
- Torque setting: Note the stated max. torque in the Technical details [23].
- The distance between two safety switches must be maintained (see Technical Details [23]).
- When installing make sure you comply with the requirements of EN ISO 14119.
- Make sure that the safety switch and actuator cannot be used as an end stop.
- The actuator should be protected from unauthorised removal and from contamination. Close the mounting holes using the seals provided (see diagrams). The use of seals should be regarded as equivalent to using permanent fastenings in accordance with Clause 7.2c of EN ISO 14119.

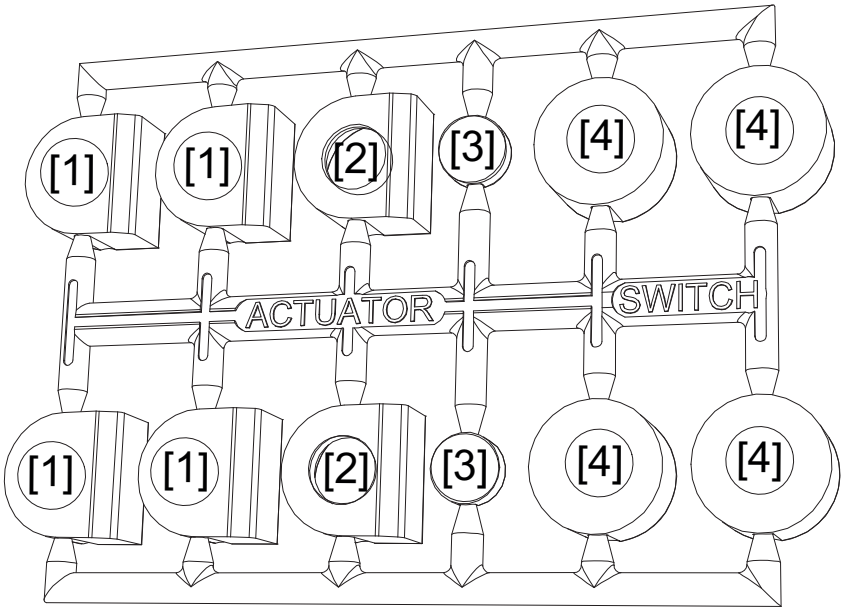



Fig.: Seals

[1]: 4 seals for actuators

[2]: 2 seals for actuators

[3]: 2 seals for actuators

[4]: 2 seals for switches and 2 seals for actuators

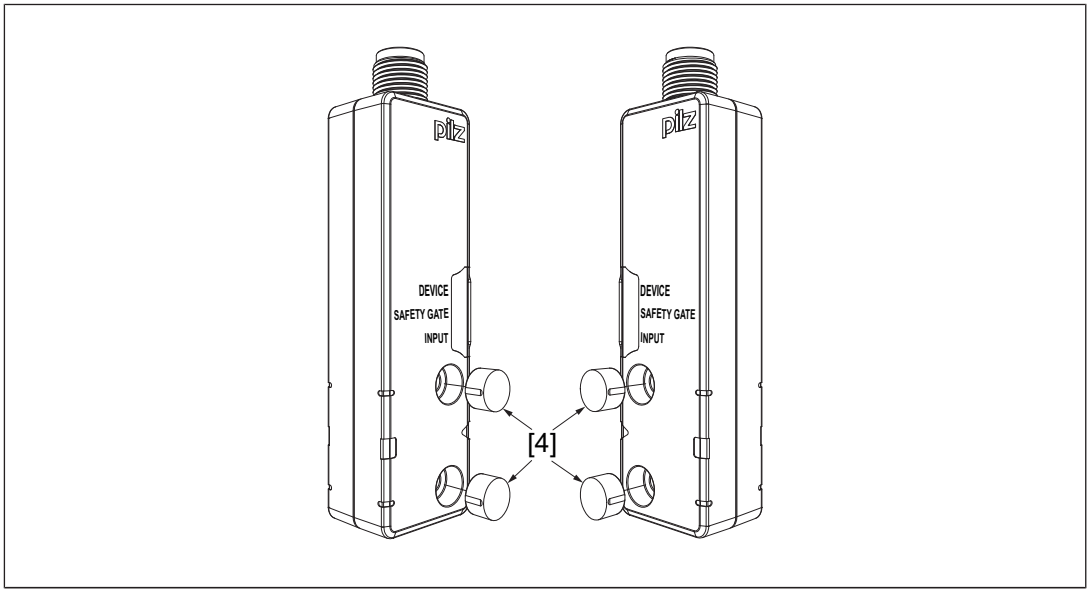



Fig.: Applying the screw cover [4] on the switch

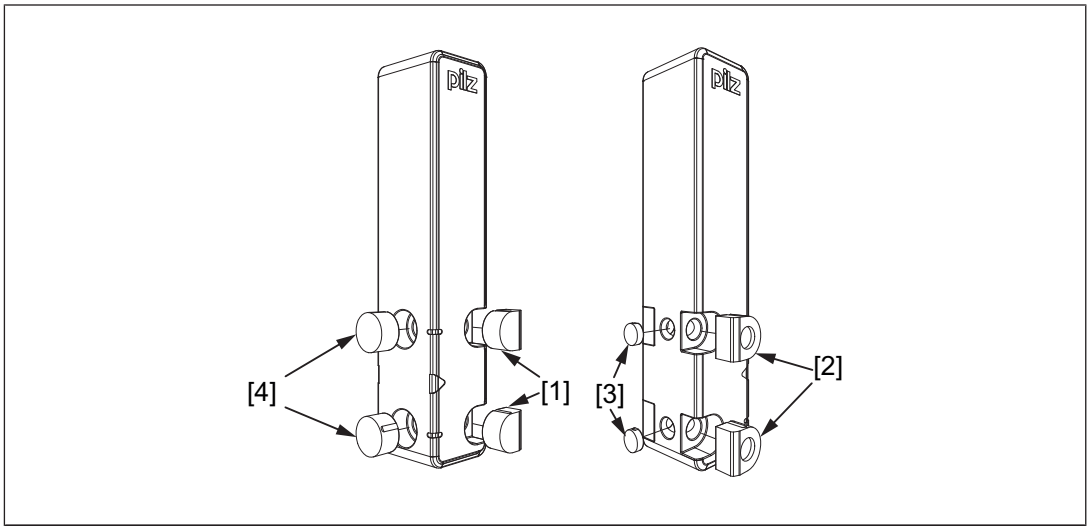



Fig.: Applying the screw covers [1] to [4] on the actuator

**Procedure:**

1. Drill holes (for M4 screws) in the mounting surface to secure the actuator and sensor (see Dimensions in mm [📖 22]).
2. Use a screw to fix the sensor to the mounting surface.

   Make sure that the square marking on the sensor can be operated using the actuator from the right side.
3. Do not fully tighten the second screw on the safety switch.
4. Use a screw to fix the actuator to the mounting surface.

   Make sure that the actuator with the triangle marking points towards the triangle marking on the sensor.
5. Do not fully tighten the second screw on the actuator.

6. Align the safety switch and tighten the screws.
7. Align the actuator and tighten the screws.

For simpler installation, the mounting brackets with order number 532 110 can be used.

## Adjustment

- The stated operating distances (see Technical details [📖 23]) only apply when the safety switch and actuator are installed facing each other in parallel. Operating distances may deviate if other arrangements are used.
- Note the maximum permitted lateral and vertical offset (see Operating distances and Lateral and vertical offset [📖 11]).

## Operation

Check the function of the safety switch before commissioning.

**Status indicators:**

**Legend:**

| | |
|---|---|
| ● | LED off |
| ☼ | LED on |
| ◐ | LED flashes (500 ms on, 500 ms off) |
| ◐ϟ | LED flashes quickly (50 ms on, 950 ms off) |

**Normal mode**

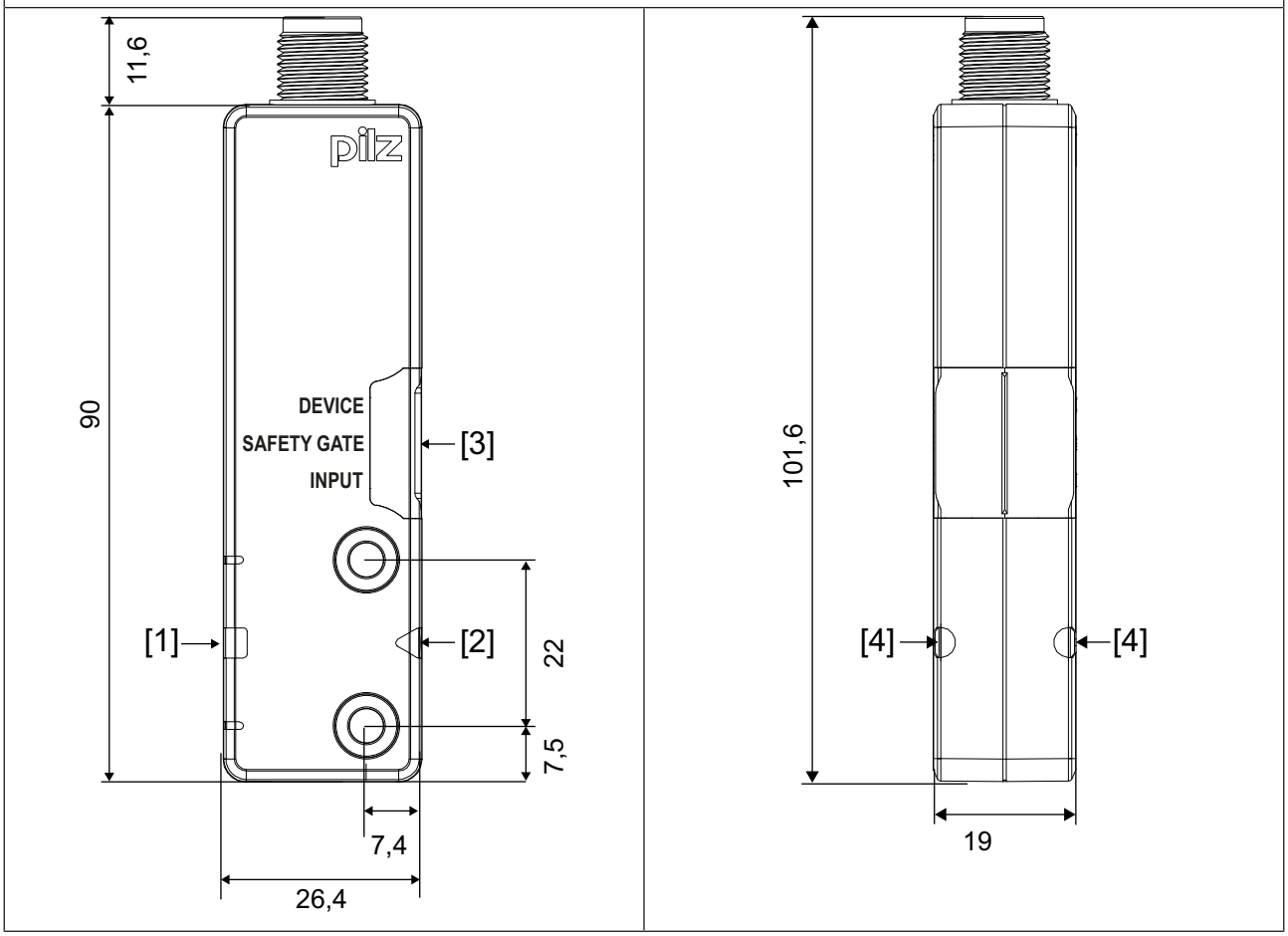
| LED status | | Switch status |
|---|---|---|
| Device | ☼ Green | Ready for operation |
| Safety Gate | ☼ yellow | Actuator is within the response range |
| | ● Off | Actuator is outside the response range |
| Input | ☼ yellow | Both safety inputs are high |
| | ● Off | Both safety inputs are low |

**Error display**

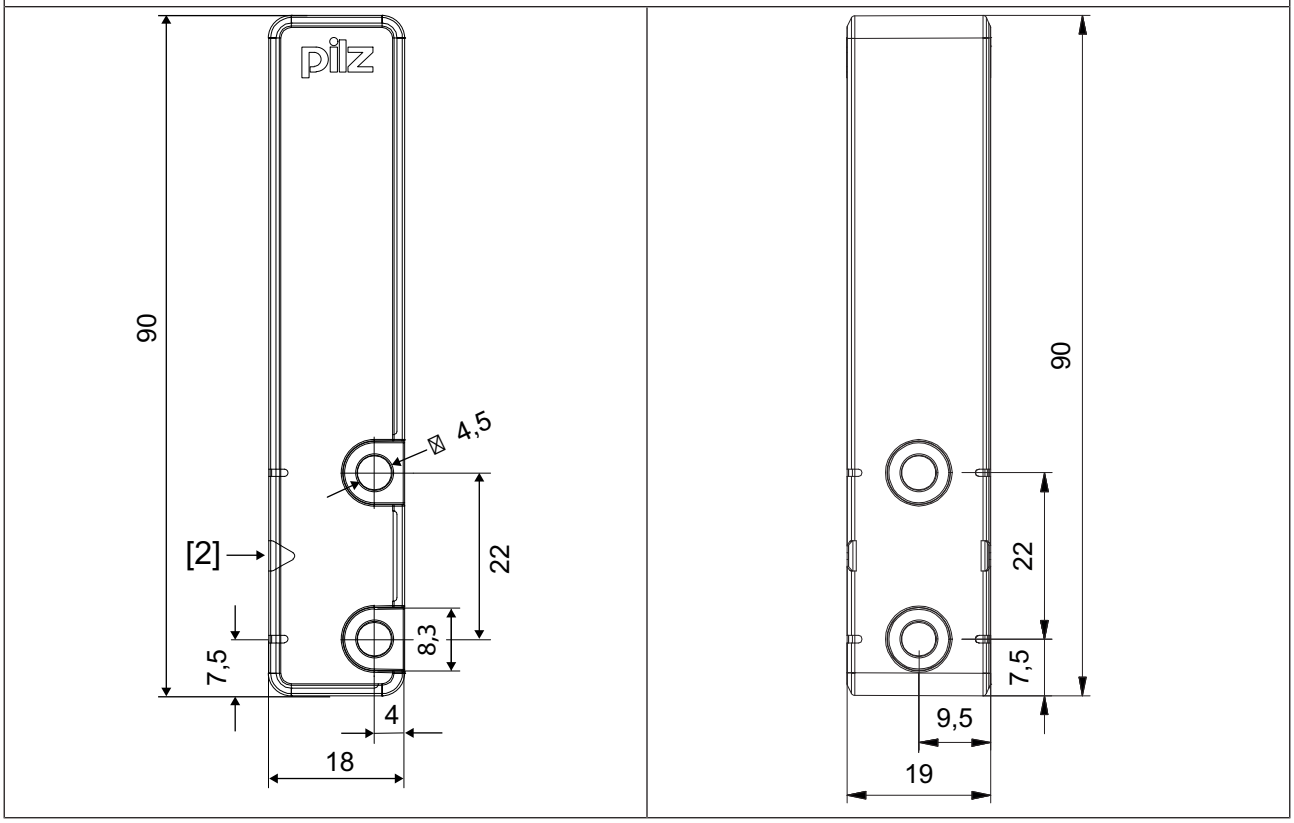
| LED status | | | Switch status | Remedy / measure |
|---|---|---|---|---|
| **Device** | **Safety gate** | **Input** | | |
| red | Off | Off | Internal error on switch | Change the switch |
| red | yellow | yellow | Supply voltage is outside the tolerance range | Ensure the voltage supply corresponds to the Technical details [📖 23]. |
| yellow | Display not definitive | Display not definitive | Supply voltage is at the limit of the tolerance range | Ensure the voltage supply corresponds to the Technical details [📖 23]. |
| red | Display of last status | Display of last status | Outputs in fault condition | Check the outputs and switch the voltage off and then on again. |
| green | yellow | Display not definitive | Wrong actuator | Use the actuator PSEN cs5.11 M12. |
| Off | yellow | yellow | Switch doesn't start | Change the switch. |

## Dimensions in mm

**Safety switch**



**Actuator**




**Legend:**

[1] Square marking

[2] Triangle marking

[3] LEDs

[4] Semicircle marking

## Technical details

| | |
|---|---|
| **General** | |
| Approvals | **CE, EAC (Eurasian), ECOLAB, FCC, IC, TÜV, UL/ cUL** |
| Sensor's mode of operation | **Transponder** |
| Codification in accordance with ISO 14119 | **Low** |
| Building class in accordance with ISO 14119 | **4** |
| Classification to EN 60947-5-3 | **PDDB** |
| **Electrical data** | |
| Supply voltage | |
| Voltage | **24,0 V** |
| Kind | **DC** |
| Voltage tolerance | **-20 %/+20 %** |
| Output of external power supply (DC) | **1,0 W** |
| Max. switching frequency | **3 Hz** |

| | |
|---|---|
| **Electrical data** | |
| Max. cable capacitance at the safety outputs | |
| No-load, PNOZ with relay contacts | **40 nF** |
| PNOZmulti, PNOZelog, PSS | **40 nF** |
| Max. inrush current impulse | |
| Current pulse, A1 | **0,50 A** |
| No-load current | **25 mA** |
| **Inputs** | |
| Number | **2** |
| Voltage at inputs | **24 V DC** |
| Input current range | **1,6 - 3,0 mA** |
| **Semiconductor outputs** | |
| OSSD safety outputs | **2** |
| Signal outputs | **1** |
| Switching current per output | **100 mA** |
| Breaking capacity per output | **2,4 W** |
| Residual current at outputs | **400 µA** |
| Voltage drop at OSSDs | **1,0 V** |
| Conditional rated short circuit current | **100 A** |
| Lowest operating current | **0 mA** |
| Utilisation category in accordance with EN 60947-1 | **DC-12** |
| **Times** | |
| Test pulse duration, safety outputs | **150 µs** |
| Switch-on delay | |
| after UB is applied | **1,0 s** |
| Inputs typ. | **1 ms** |
| Inputs max. | **3 ms** |
| Actuator typ. | **30 ms** |
| Actuator max. | **50 ms** |
| Delay-on de-energisation | |
| Inputs typ. | **2 ms** |
| Inputs max. | **4 ms** |
| Actuator typ. | **30 ms** |
| Actuator max. | **40 ms** |
| Risk time in accordance with EN 60947-5-3 | **150 ms** |
| Supply interruption before de-energisation in the input circuit | **450,0 µs** |
| Supply interruption before de-energisation | **20 ms** |
| Simultaneity, channel 1 and 2 | ∞ |
| **Environmental data** | |
| Ambient temperature | |
| In accordance with the standard | **EN 60068-2-14** |
| Temperature range | **-25 - 70 °C** |
| Storage temperature | |
| In accordance with the standard | **EN 60068-2-1/-2** |
| Temperature range | **-40 - 85 °C** |

| | |
|---|---|
| **Environmental data** | |
| Climatic suitability | |
| In accordance with the standard | **EN 60068-2-30** |
| Humidity | **93 % r. h. at 40 °C** |
| EMC | **EN 60947-5-3** |
| Vibration | |
| In accordance with the standard | **EN 60947-5-2** |
| Frequency | **10,0 - 55,0 Hz** |
| Amplitude | **1,00 mm** |
| Shock stress | |
| In accordance with the standard | **EN 60947-5-2** |
| Acceleration | **30g** |
| Duration | **11 ms** |
| Airgap creepage | |
| Overvoltage category | **III** |
| Pollution degree | **3** |
| Rated insulation voltage | **75 V** |
| Rated impulse withstand voltage | **1,00 kV** |
| Protection type | |
| Housing | **IP66, IP67** |
| **Mechanical data** | |
| Magnetic holding force between actuator and sensor | **30 N** |
| Actuator 1 | **PSEN cs5.11 M12** |
| Operating distances | |
| Repetition accuracy switching distances | **3 %** |
| Change of operating distance with temperature changes | **+-0,02mm/°C** |
| Operating distances when the actuator approaches square marking | |
| Assured operating distance Sao | **8 mm** |
| Assured release distance Sar | **20 mm** |
| Typical operating distance So | **11 mm** |
| Typical release distance Sr | **14 mm** |
| Typical hysteresis | **2 mm** |
| Min. distance between safety switches | **250 mm** |
| Sensor flush installation in accordance with EN 60947-5-2 | **Yes, follow installation guidelines** |
| Connection type | **M12, 8-pin male connector** |
| Material | **Lexan 9945, PA+GF, PBT** |
| Fixing screws torque settings | **1,00 Nm** |
| Dimensions | |
| Height | **26,4 mm** |
| Width | **101,6 mm** |
| Depth | **19,0 mm** |

| Mechanical data | |
|---|---|
| Actuator dimensions | |
| Height | **18,0 mm** |
| Width | **90,0 mm** |
| Depth | **19,0 mm** |
| Weight of safety switch | **75 g** |
| Weight of actuator | **60 g** |
| Weight | **135 g** |

Where standards are undated, the 2014-09 latest editions shall apply.

### Safety characteristic data

| Operating mode | EN ISO 13849-1: 2008 PL | EN ISO 13849-1: 2008 Category | EN 62061 SIL CL | EN 62061 $PFH_D$ [1/h] | IEC 61511 SIL | IEC 61511 PFD | EN ISO 13849-1: 2008 $T_M$ [year] |
|---|---|---|---|---|---|---|---|
| 2-ch. OSSD | **PL e** | **Cat. 4** | **SIL CL 3** | **9,56E-10** | – | **8,51E-06** | **20** |

All the units used within a safety function must be considered when calculating the safety characteristic data.

**INFORMATION**

A safety function's SIL/PL values are **not** identical to the SIL/PL values of the units that are used and may be different. We recommend that you use the PAScal software tool to calculate the safety function's SIL/PL values.

## Supplementary data

### Radio approval

*USA/Canada*

**FCC ID: VT8- PSENCS5**
**IC: 7482A- PSENCS5**

FCC/IC-Requirements:
This product complies with Part 15 of the FCC Rules and with Industry Canada licence-exempt RSS standards.
Operation is subject to the following two conditions:
1) this product may not cause harmful interference, and
2) this product must accept any interference received, including interference that may cause undesired operation.

Changes or modifications made to this product not expressly approved by Pilz may void the FCC authorization to operate this equipment.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Le présent produit est conforme aux CNR d'Industrie Canada applicables aux appareils radio
exempts de licence. L'exploitation est autorisée aux deux conditions suivantes:
(1) le produit ne doit pas produire de brouillage, et
(2) l'utilisateur de le produit doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

## Order reference

### System

| Product type | Features | Connection type | Order no. |
|---|---|---|---|
| PSEN cs5.11 M12/8/PSEN c-s5.1 M12 1unit | Safety gate system with magnetic latching, coded | 8-pin M12 connector | 542 011 |
| PSEN cs5.11 M12/8 1switch | Safety switch, coded, with magnet | 8-pin M12 connector | 542 051 |
| PSEN cs5.11 M12 1actuator | Actuator, coded, with magnet | | 542 081 |

### Accessories

| Product type | Features | Order no. |
|---|---|---|
| PSEN Winkel / bracket | Mounting bracket | 532 110 |

## EC declaration of conformity

This product/these products meet the requirements of the directive 2006/42/EC for machinery of the European Parliament and of the Council. The complete EC Declaration of Conformity is available on the Internet at www.pilz.com/downloads.
Representative: Norbert Fröhlich, Pilz GmbH & Co. KG, Felix-Wankel-Str. 2, 73760 Ostfildern, Germany

# Support

Technical support is available from Pilz round the clock.

Americas
Brazil
+55 11 97569-2804
Canada
+1 888-315-PILZ (315-7459)
Mexico
+52 55 5572 1300
USA (toll-free)
+1 877-PILZUSA (745-9872)

Asia
China
+86 21 60880878-216
Japan
+81 45 471-2281
South Korea
+82 31 450 0680

Australia
+61 3 95446300

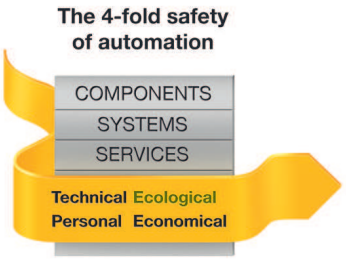
Europe
Austria
+43 1 7986263-0
Belgium, Luxembourg
+32 9 3217575
France
+33 3 88104000
Germany
+49 711 3409-444
Ireland
+353 21 4804983
Italy
+39 0362 1826711
Scandinavia
+45 74436332
Spain
+34 938497433
Switzerland
+41 62 88979-30
The Netherlands
+31 347 320477
Turkey
+90 216 5775552
United Kingdom
+44 1536 462203

You can reach our
international hotline on:
+49 711 3409-444
support@pilz.com

Pilz develops environmentally-friendly products using ecological materials and energy-saving technologies. Offices and production facilities are ecologically designed, environmentally-aware and energy-saving. So Pilz offers sustainability, plus the security of using energy-efficient products and environmentally-friendly solutions.

Energy saving by Pilz

BLUECOMPETENCE
Alliance Member
Partner of the Engineering Industry Sustainability Initiative



Pilz GmbH & Co. KG
Felix-Wankel-Straße 2
73760 Ostfildern, Germany
Tel.: +49 711 3409-0
Fax: +49 711 3409-133
info@pilz.com
www.pilz.com

pilz
the spirit of safety

1003421-EN-01, 2014-11 Printed in Germany
© Pilz GmbH & Co. KG, 2011

CMSE ®, InduraNET p ®, PAS4000 ®, PAScal ®, PASconfig ®, Pilz ®, PIT ®, PLID ®, PMCprimo ®, PMCprotego ®, PMCtendo ®, PMD ®, PMI ®, PNOZ ®, Primo ®, PSEN ®, PSS ®, PVIS ®, SafetyEYE ®, SafetyNET p ®, the spirit of safety ® are registered and protected trademarks of Pilz GmbH & Co. KG in some countries. We would point out that product features may vary from the details stated in this document, depending on the status at the time of publication and the scope of the equipment. We accept no responsibility for the validity, accuracy and entirety of the text and graphics presented in this information. Please contact our Technical Support if you have any questions.