



## PSEN opl muting arm PSEN opl muting arm bracket kit

**PILZ**  
THE SPIRIT OF SAFETY

► PSEN sensor technology

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SD means Secure Digital

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# 1 Introduction

## 1.1 Validity of documentation

This documentation is valid for the product PSEN opII muting arm. 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.

## 1.2 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.

## 1.3 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.

## 2 Overview

The PSEN opII muting arm can be used for simple installation of muting sensors.

Installation can be carried out right at the safety light curtain, a protective column or a suitable installation surface.

PSEN opII muting arm is a component of the muting set

- ▶ PSEN opII L-muting set
- ▶ PSEN opII T-muting set
- ▶ PSEN opII X-muting set

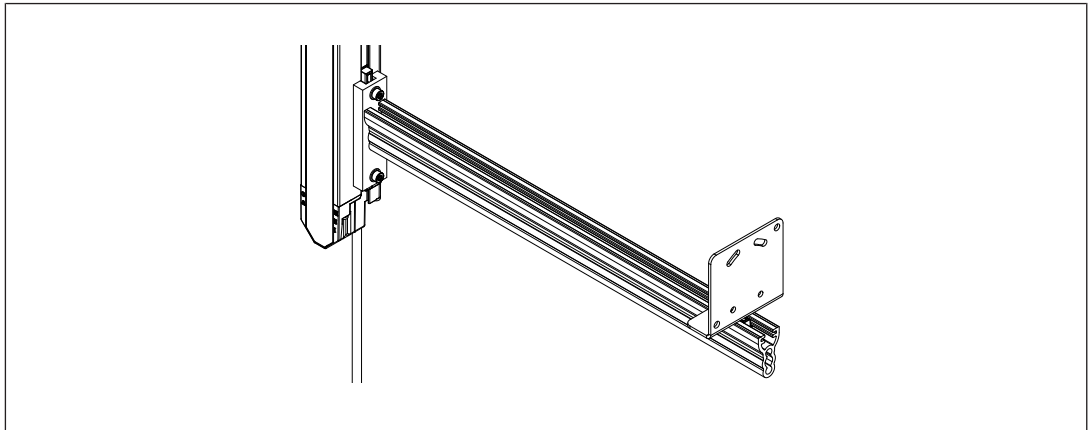
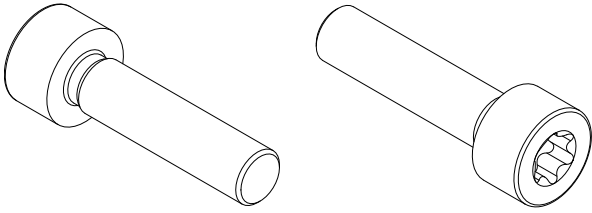
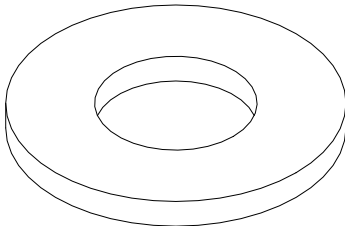


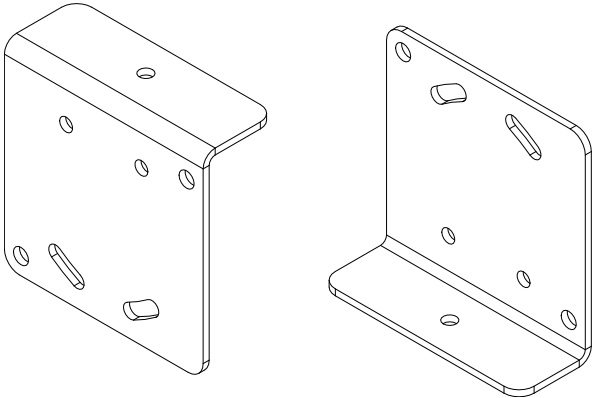
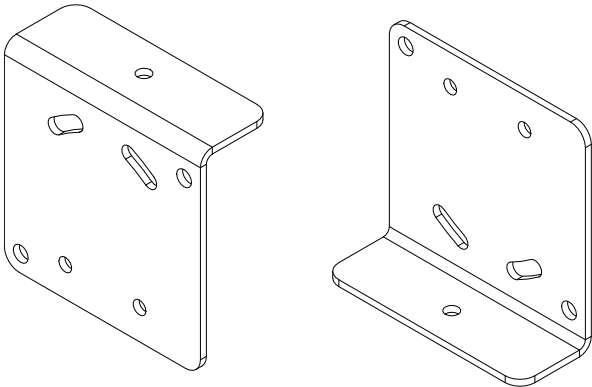
Fig.: PSEN opII muting arm and PSEN opII muting arm bracket kit – installed at the safety light curtain and oriented upwards

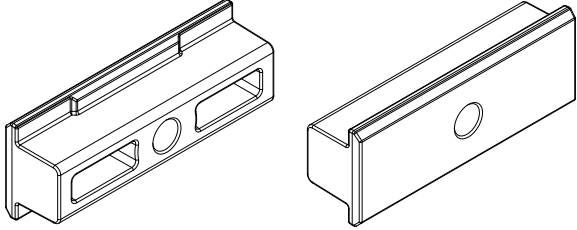
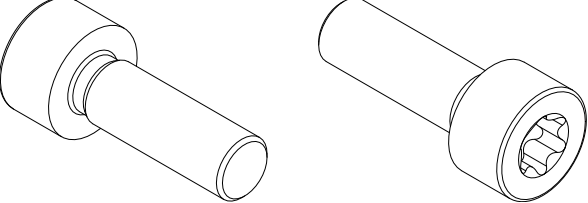
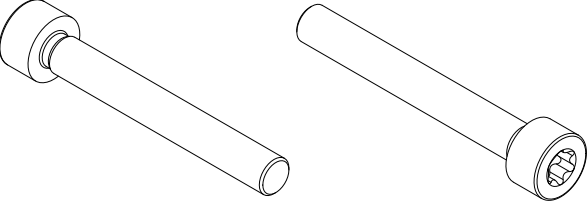
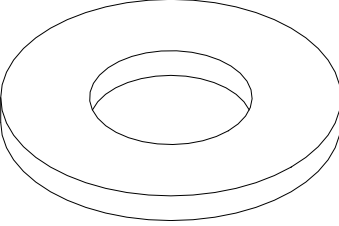
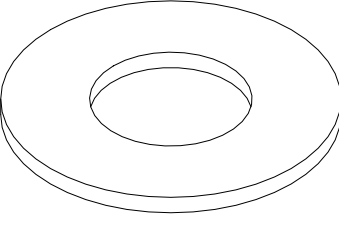
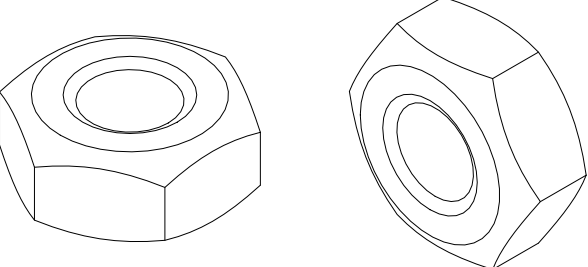
### 2.1 Scope of supply PSEN opII muting arm

| Quantity | Description  | Illustration |
|----------|--|--------------|
| 2        | Muting arms  |              |
| 6        | Slot nuts  |              |
| 4        | Cylinder head screws M4x12 ISO14579 for attachment to a safety light curtain |              |

| Quant-ity | Description  | Illustration   |
|-----------|--|--|
| 4         | Cylinder head screws M4x10 ISO14579 for at-tachment to a protective column |  |
| 4         | Washer 4.3x0.8   |  |

## 2.2 Scope of supply PSEN opII muting arm bracket kit

| Quant-ity | Description   | Illustration   |
|-----------|---|--|
| 2         | Holding plate 1 for muting sensors oriented upwards   |  |
| 2         | Holding plate 2 for muting sensors oriented downwards |  |

| Quant-ity | Description                         | Illustration   |
|-----------|-------------------------------------|--|
| 4         | Slot nuts                           |    |
| 8         | Cylinder head screws M4x12 ISO14579 |    |
| 8         | Cylinder head screws M4x30 ISO14579 |   |
| 16        | Washer 4.3x0.8                      |  |
| 12        | Spring washer 4.3x0.5               |  |
| 8         | Hex nut M4                          |  |

## 3 Safety

### 3.1 Intended use


The PSEN opII muting arm must only be used for implementing the muting function with the following muting sensors:

- ▶ PSEN op3.3 Reflex NO/NC M12 together with PSEN op Reflector as a reflected light sensor
- ▶ PSEN op3.1 Receiver NO/NC M12 together with PSEN op3.2 Emitter M12 as a single-channel light beam device (for higher working distances)

The product can be used with the following products:

- ▶ PSEN opII series
- ▶ PSEN opII protective column

#### **The following is deemed improper use in particular**

- ▶ Any component or technical modification to the product,
- ▶ Use of the product outside the areas described in this operating manual,
- ▶ Use of the product outside the technical details (see [Technical details](#)  19]).

### 3.2 Safety regulations

#### 3.2.1 Additional documents that apply

Please read and take note of the following documents:

- ▶ Operating manual of the used muting sensor

You will need to be conversant with the information in this document to fully understand this operating manual.

#### 3.2.2 Use of qualified personnel

The products may only be assembled, installed, programmed, commissioned, operated, maintained and decommissioned by persons who are competent to do so.

A competent person is a qualified and knowledgeable person who, because of their training, experience and current professional activity, has the specialist knowledge required. To be able to inspect, assess and operate devices, systems and machines, the person has to be informed of the state of the art and the applicable national, European and international laws, directives and standards.

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 the section entitled Safety
- ▶ Have a good knowledge of the generic and specialist standards applicable to the specific application.

### **3.2.3 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 or
- ▶ Operating personnel are not suitably trained.

### **3.2.4 Disposal**

- ▶ When decommissioning, please comply with local regulations regarding the disposal of electronic devices (e.g. Electrical and Electronic Equipment Act).

## 4 Installation

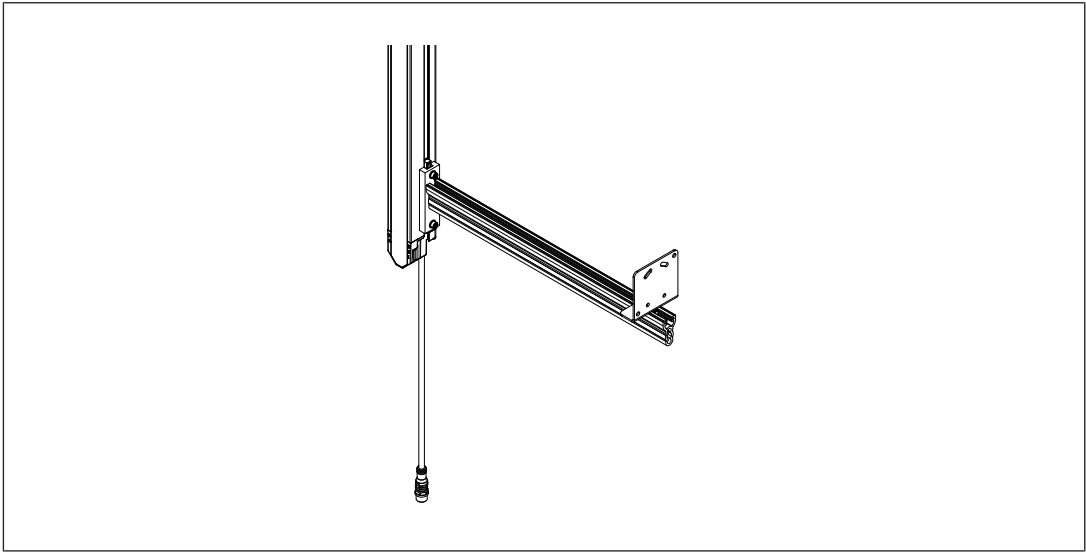


Fig.: PSEN opII muting arm installed at the safety light curtain and PSEN opII muting arm bracket kit oriented upwards

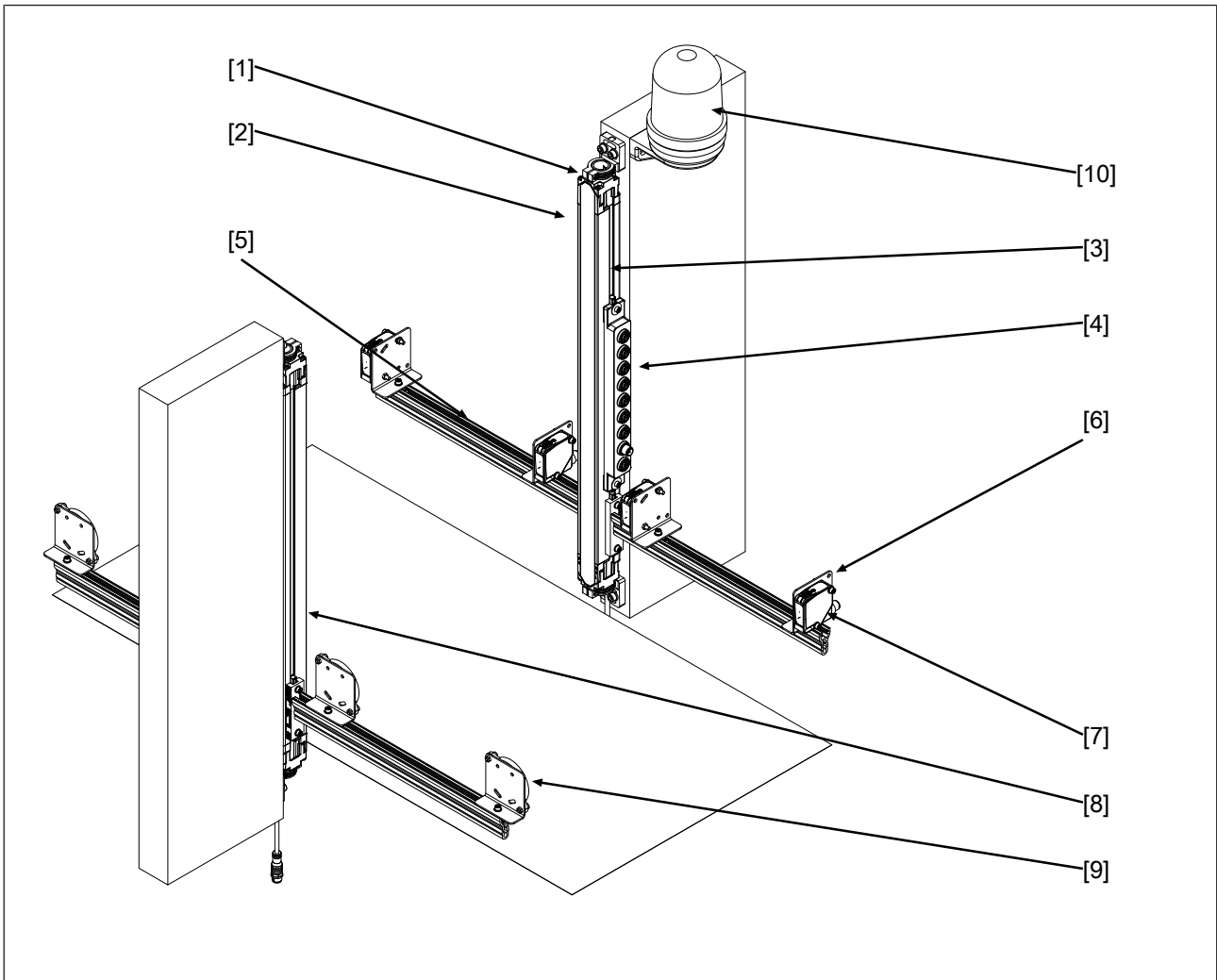


Fig.: Example for use and installation of PSEN opII muting box with muting arms and muting sensors at the safety light curtain (muting accessory is not included in the scope of supply)

**Legend**

- [1] Swivel mount
- [2] Receiver
- [3] Groove at the safety light curtain
- [4] PSEN opII muting box
- [5] Muting arm PSEN opII muting arm
- [6] Bracket for muting sensor PSEN opII muting arm bracket kit
- [7] Muting sensor PSEN op3.3 attached to the top of the muting arm
- [8] Transmitter
- [9] PSEN op Reflector
- [10] Muting lamp PIT si2.1

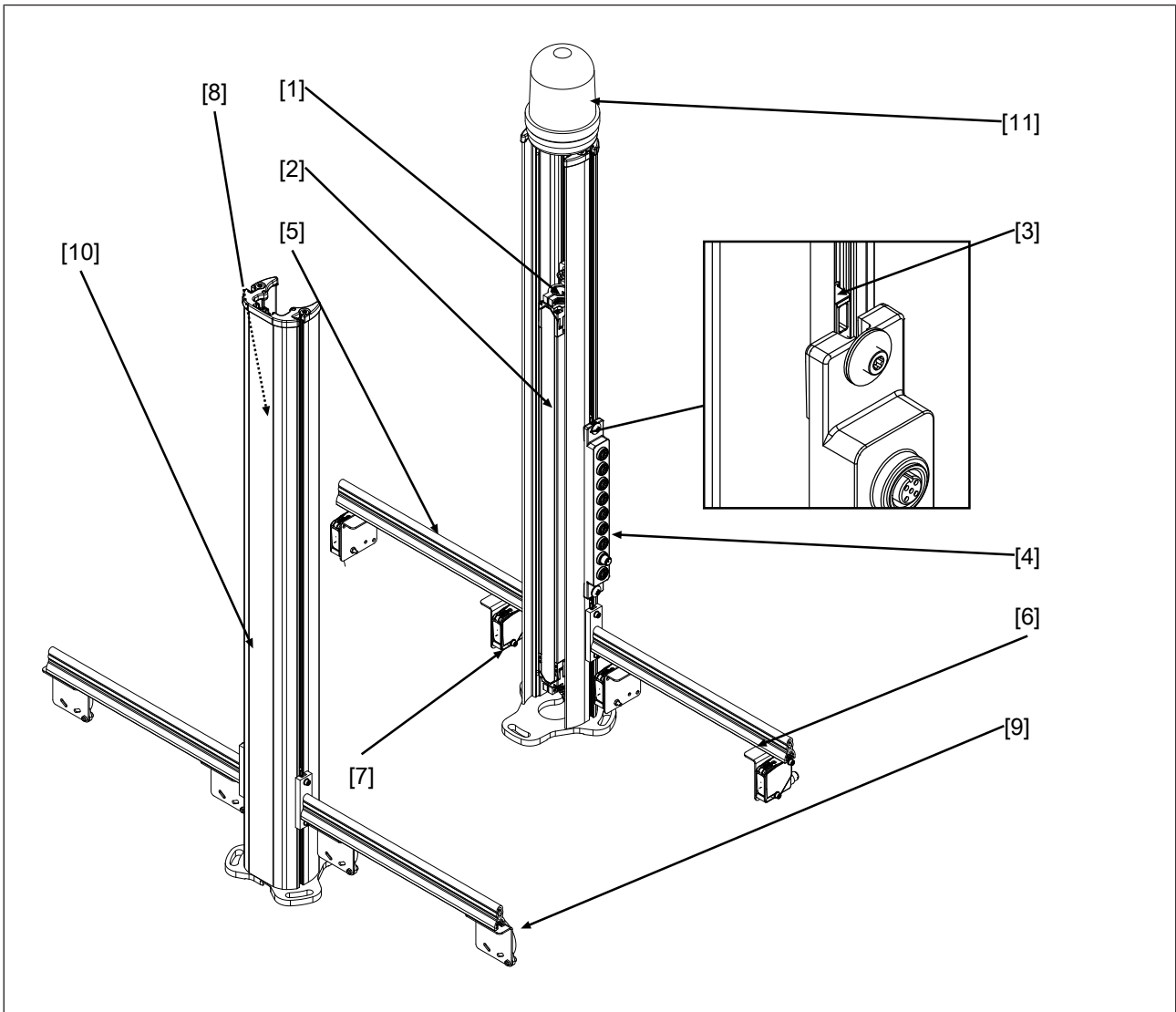


Fig.: Example for use and installation of the junction box with protective column, muting arms and muting sensors at the protective column (muting accessory is not included in the scope of supply)

**Legend**

- [1] Swivel mount
- [2] Receiver
- [3] Groove on the protective column
- [4] PSEN opII muting box
- [5] Muting arm PSEN opII muting arm
- [6] Bracket for muting sensor PSEN opII muting arm bracket kit
- [7] Muting sensor PSEN op3.3 attached to the bottom of the muting arm
- [8] Transmitter
- [9] PSEN op Reflector
- [10] PSEN opII protective column
- [11] Muting lamp PIT si2.1

Note:

► Required tool:

– Hexalobular internal T20

► Support the muting arm when it is attached directly to the safety light curtain and the safety light curtain is exposed to shock or vibration load (see graphic).

The required slot nuts are included in the scope of supply

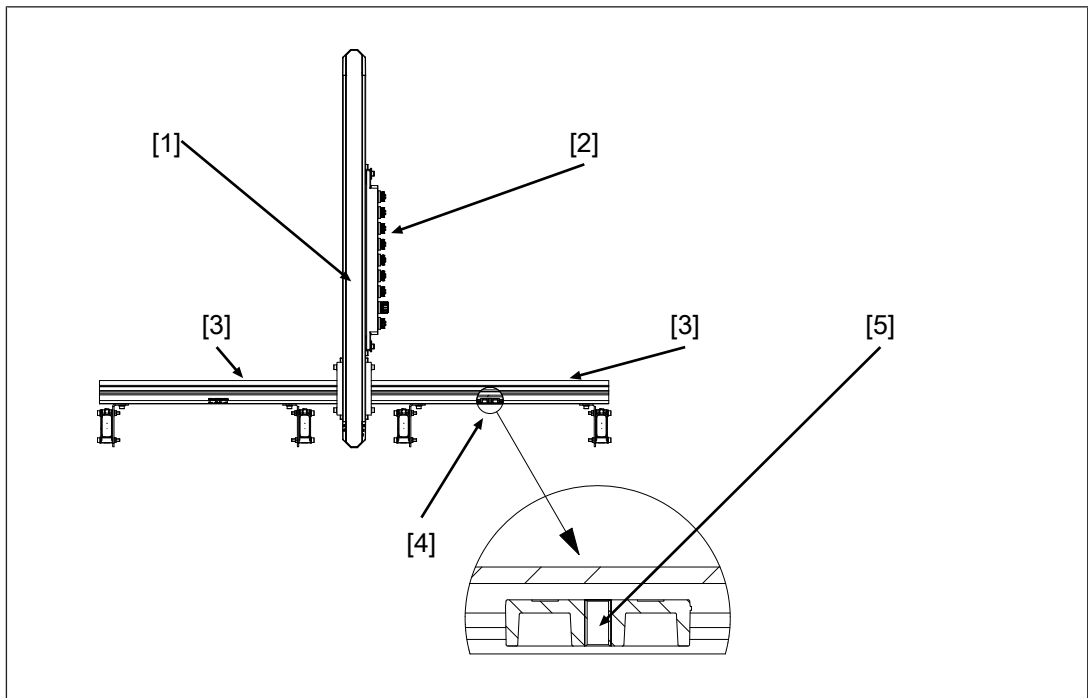


Fig.: Muting arm with support

**Legend**

- [1] Safety light curtain
- [2] PSEN opII muting box
- [3] Muting arm
- [4] Support of muting arm
- [5] Slot nut

**Procedure:**

|  |  |
|--|--|
| <p>Attachment to safety light curtain</p>  | <p>► Attachment to safety light curtain:</p> <p>Insert two slot nuts [3] into the groove at the safety light curtain. [1].</p> <p>Place the muting arm [2] on the slot nuts [3].</p> <p>Attach the muting arm with the cylinder head screws M4x12 and washers 4.3x0.8 [4] in the slot nuts. Tighten the cylinder head screws to 2 Nm.</p>  |
| <p>Attachment to the protective column of the receiver of the safety light curtain</p> | <p>► Attachment to the protective column of the receiver of the safety light curtain:</p> <p>Insert two slot nuts [3] into the groove at the protective column [5].</p> <p>Place the muting arm [2] on the slot nuts [3].</p> <p>Attach the muting arm with the cylinder head screws M4x16 and washers 4.3x0.8 [6] in the slot nuts. Tighten the cylinder head screws to 2 Nm.</p>   |
|  | <p>Attach the muting sensor with the cylinder head screws M4x30 ([3]), the washers 4.3x0.8 ([2]) and spring washers 4.3x0.5 ([1]) and the hex nuts M4 [4] to the holding plate (see graphic).</p> <p>Tighten the cylinder head screws slightly. It must be possible to move the muting sensor with manual force for the alignment.</p> <p>Use the holding plate 2 for muting sensors oriented downwards.</p> <p>Use the holding plate 1 for muting sensors oriented upwards.</p> |

|  |  |
|--|--|
|  | <p>Attach the reflector with the cylinder head screws M4x30 ([3]), the washer 4.3x0.5 ([2]) and the hex nuts M4 [4] to the holding plate.</p> <p>Tighten the cylinder head screws to 1.5 Nm.</p>   |
|  | <p>Insert a slot nut [3] into the groove of the muting arm for each muting sensor [1]. Place the holding plate [2] on the slot nut (see graphic).</p> <p>When the muting arm is supported (see above), an additional slot nut can be inserted.</p> <p>Attach the holding plate [2] with the cylinder head plate M4x12 [4], the washer 4.3x0.8 and the spring washer in the slot nut [3].</p> <p>Tighten the cylinder head screws slightly. It must be possible to move the holding plate of the muting sensor with manual force for the alignment.</p> |
|  | <p>Align the reflector and the sensor correctly to each other and tighten the screws with 1.5 Nm</p>   |

## 5 Regular checks and maintenance

It is not necessary to perform maintenance work on the product in normal operation. Please return any faulty products to Pilz.

Check the correct function of the plant/machine each time it is modified. Changing the safety light curtain or swapping the safety light curtain components should also be regarded as a modification.

You **must** comply with the requirements of the applicable national regulations.

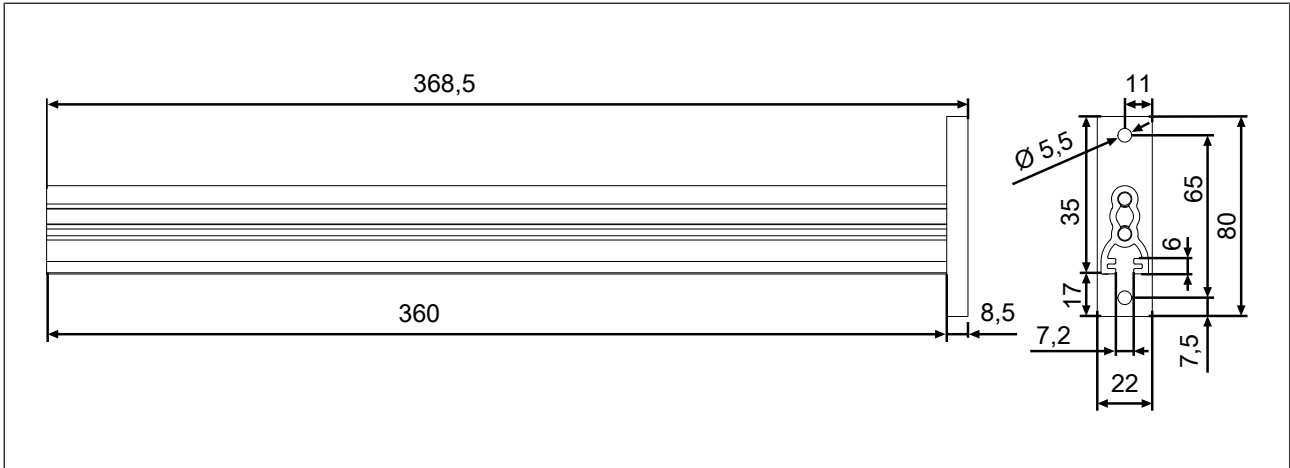


### INFORMATION

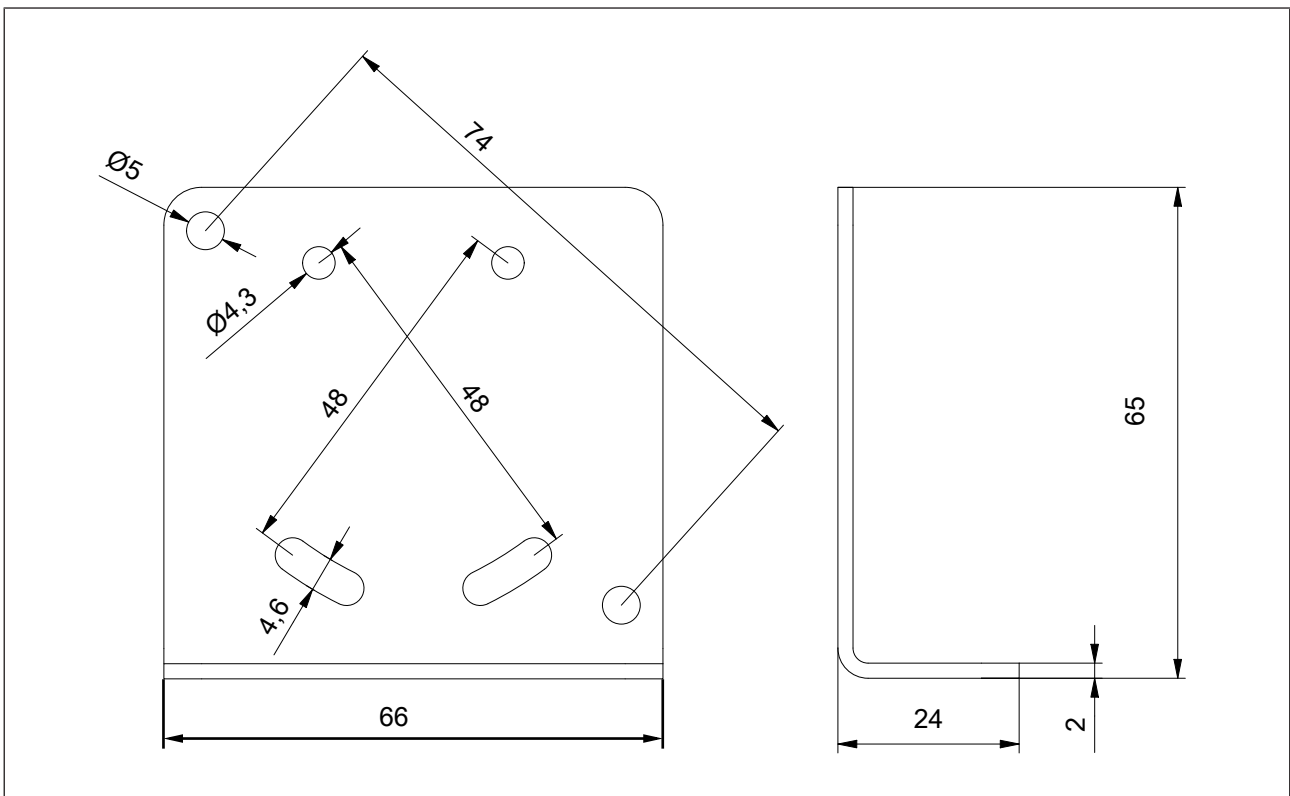
This inspection may only be carried out by qualified personnel.

## 6 Dimensions

### PSEN opII muting arm



### PSEN opII muting arm bracket kit



## 7 Technical details PSEN opII muting arm

### Environmental data

Ambient temperature

Temperature range **-25 - 60 °C**

Storage temperature

Temperature range **-40 - 70 °C**

Vibration

In accordance with the standard **EN 60068-2-6**

Frequency **10 - 150 Hz**

Amplitude **0,75 mm**

Acceleration **0,2g**

Shock stress

In accordance with the standard **EN 60068-2-27**

Number of shocks **1000**

Acceleration **10g**

Duration **16 ms**

### Mechanical data

Material **Aluminium**

Max. torque setting

Installation screw **2 Nm**

Dimensions

Height **369 mm**

Width **22 mm**

Depth **80 mm**

Weight **335 g**

Where standards are undated, the 2020-07 latest editions shall apply.

## 8 Technical details PSEN opII muting arm bracket kit

| <b>Environmental data</b>       |                      |
|---------------------------------|----------------------|
| Ambient temperature             |                      |
| Temperature range               | <b>-25 - 60 °C</b>   |
| Storage temperature             |                      |
| Temperature range               | <b>-40 - 70 °C</b>   |
| Vibration                       |                      |
| In accordance with the standard | <b>EN 60068-2-6</b>  |
| Frequency                       | <b>10 - 150 Hz</b>   |
| Amplitude                       | <b>0,75 mm</b>       |
| Acceleration                    | <b>0,2g</b>          |
| Shock stress                    |                      |
| In accordance with the standard | <b>EN 60068-2-27</b> |
| Number of shocks                | <b>1000</b>          |
| Acceleration                    | <b>10g</b>           |
| Duration                        | <b>16 ms</b>         |
| <b>Mechanical data</b>          |                      |
| Material                        | <b>Steel-coated</b>  |
| Max. torque setting             |                      |
| Clamping screw                  | <b>1,5 Nm</b>        |
| Installation screw              | <b>1,5 Nm</b>        |
| Dimensions                      |                      |
| Height                          | <b>65 mm</b>         |
| Width                           | <b>66 mm</b>         |
| Depth                           | <b>24 mm</b>         |
| Weight                          | <b>405 g</b>         |

Where standards are undated, the 2020-07 latest editions shall apply.

## 9 Order reference

| Product type                     | Features   | Order no. |
|----------------------------------|--|-----------|
| PSEN oplI muting arm             | 2 muting arms for installing muting sensors to sender and receiver of the PSEN oplIxx series | 6C000185  |
| PSEN oplI muting arm bracket kit | 4 attachments for installing muting sensors to muting arms                                   | 6C000186  |

### 9.1 Accessories

| Product type           | Features  | Order no. |
|------------------------|---|-----------|
| PSEN oplI L-muting set | <p>Muting set for safety light curtains of the PSEN oplIxx series.</p> <ul style="list-style-type: none"> <li>▶ 2 x muting sensors PSEN op3.3,</li> <li>▶ 2 x PSEN op Reflector,</li> <li>▶ 2 x 1 m cable for muting sensors,</li> <li>▶ 1 x PSEN oplI muting box for connecting the muting sensors,</li> <li>▶ 1 x muting lamp<br/>PIT si2.1,</li> <li>▶ 1 x muting arm<br/>PSEN oplI muting arm,</li> <li>▶ 1 x bracket for muting sensor<br/>PSEN oplI muting arm bracket kit</li> </ul>   | 6C000182  |
| PSEN oplI T-muting set | <p>Muting set for safety light curtains of the PSEN oplIxx-A series.</p> <ul style="list-style-type: none"> <li>▶ 4 x muting sensors PSEN op3.3,</li> <li>▶ 4 x PSEN op Reflector,</li> <li>▶ 4 x 1 m cable for muting sensors,</li> <li>▶ 1 x PSEN oplI muting box for connecting the muting sensors,</li> <li>▶ 1 x muting lamp<br/>PIT si2.1,</li> <li>▶ 2 x muting arm<br/>PSEN oplI muting arm,</li> <li>▶ 2 x bracket for muting sensor<br/>PSEN oplI muting arm bracket kit</li> </ul> | 6C000183  |

| Product type           | Features   | Order no. |
|------------------------|--|-----------|
| PSEN opII X-muting set | Muting set for safety light curtains of the PSEN opIIxx series. <ul style="list-style-type: none"><li>▶ 2 x muting sensors PSEN op3.3,</li><li>▶ 2 x PSEN op Reflector,</li><li>▶ 2 x 1 m cable for muting sensors,</li><li>▶ 1 x PSEN opII muting box for connecting the muting sensors,</li><li>▶ 1 x muting lamp<br/>PIT si2.1,</li><li>▶ 2 x muting arm<br/>PSEN opII muting arm,</li><li>▶ 1 x bracket for muting sensor<br/>PSEN opII muting arm bracket kit</li></ul> | 6C000184  |
| PSEN opII slot nuts    | 4 slot nuts for installing accessories to the profile of a PSEN opII light curtain or a PSEN opII protective column  | 632512    |

