



## PSEN oPl Laserpointer

**PILZ**  
THE SPIRIT OF SAFETY

- ▶ PSEN sensor technology

This document is the original document.

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

Source code from third-party manufacturers or open source software has been used for some components. The relevant licence information is available on the Internet on the Pilz homepage.

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

<b>Section 1</b>	<b>Introduction</b>	<b>4</b>	
	1.1	Validity of documentation	4
	1.2	Using the documentation	4
	1.3	Definition of symbols	4
<b>Section 2</b>	<b>Safety</b>	<b>6</b>	
	2.1	Intended use	6
	2.2	Safety regulations	6
	2.2.1	Use of qualified personnel	6
	2.2.2	Warranty and liability	7
	2.2.3	Disposal	7
	2.3	For your safety	7
<b>Section 3</b>	<b>Overview</b>	<b>8</b>	
	3.1	Scope	8
<b>Section 4</b>	<b>Application</b>	<b>9</b>	
	4.1	Attach PSEN opII Laserpointer to transmitter or receiver	9
	4.2	Align safety light grid	10
	4.3	Battery change	11
<b>Section 5</b>	<b>Dimensions in mm</b>	<b>12</b>	
<b>Section 6</b>	<b>Technical details</b>	<b>13</b>	
<b>Section 7</b>	<b>Order reference</b>	<b>14</b>	

# 1 Introduction

## 1.1 Validity of documentation

This documentation is valid for the product PSEN opII Laserpointer. 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 Safety

### 2.1 Intended use

The PSEN opII Laserpointer may only be used as a laser alignment aid to align a safety light grid in the PSEN opII series.

The PSEN opII Laserpointer meets the safety regulations in accordance with DIN EN 60825-1 for a laser class 2 product.

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 [Technical details](#) [ 13]).



#### 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.

### 2.2 Safety regulations

#### 2.2.1 Use of qualified personnel

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

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.

## 2.2.2 Warranty and liability

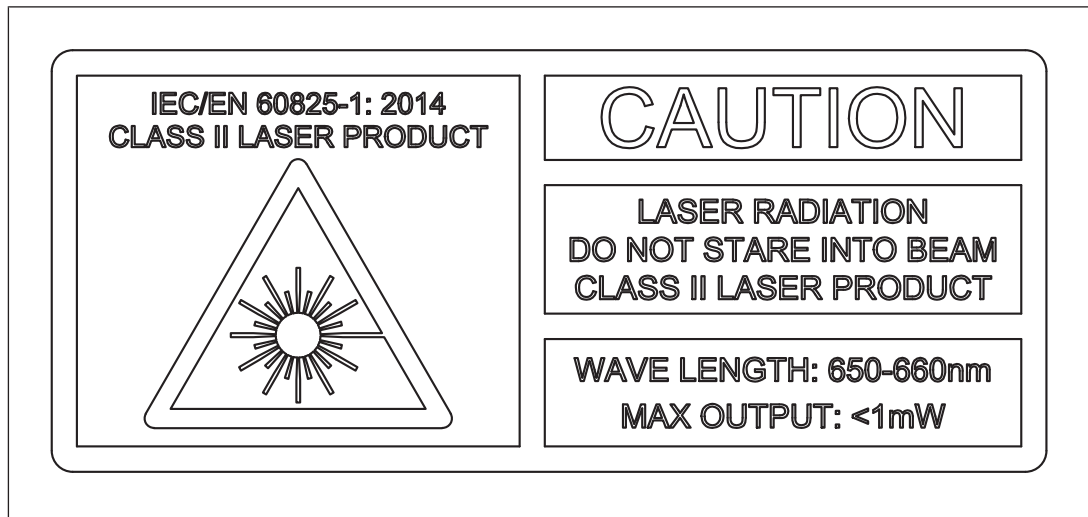
All claims to warranty and liability will be rendered invalid if

- ▶ 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.).

## 2.2.3 Disposal

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

## 2.3 For your safety



### **DANGER!**

Caution! Laser radiation – Laser class 2


Looking at the laser beam path over a sustained period may damage the retina!

The use of optical instruments (e.g. magnifying glasses or binoculars) increases the risk of eye damage.

- Never look directly into the laser beam or in the direction of reflected laser beams.
- Never point the laser beam directly at a person.
- If the laser beam has accidentally been pointed at a person, interrupt the laser beam path with an opaque, non-reflective object.
- Avoid laser beam reflections caused by reflective surfaces when using the device.

### 3 Overview

The laser pointer

- ▶ is suitable for the mechanical alignment of safety light grids from the PSEN opII series with finger and hand protection resolution and an operating range of  $\leq 20$  metres
- ▶ is supplied with power via two micro batteries (1.5 V, type AAA), which are included (see [Battery change](#) [ 11]).

Pilz recommends that you use the PSEN opII Laserpointer particularly in applications with one or more deviating mirrors.

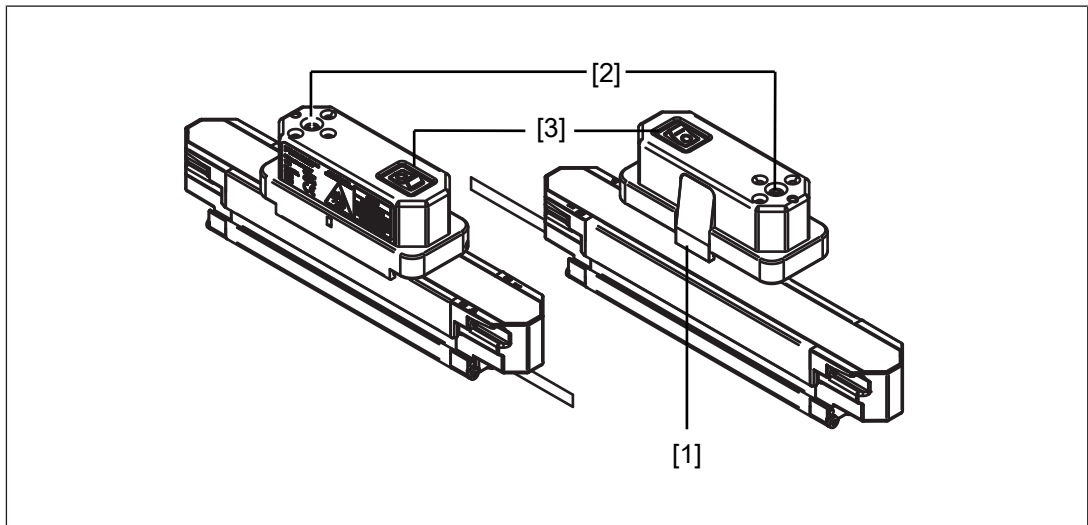


Fig.: PSEN opII Laserpointer when used on the transmitter – view of both longitudinal sides

#### Legend

- [1] Clamping device on the PSEN opII Laserpointer for frictional connection to the transmitter
- [2] Laser beam exit
- [3] Pushbutton switch (PSEN opII Laserpointer is switched off)

#### 3.1 Scope

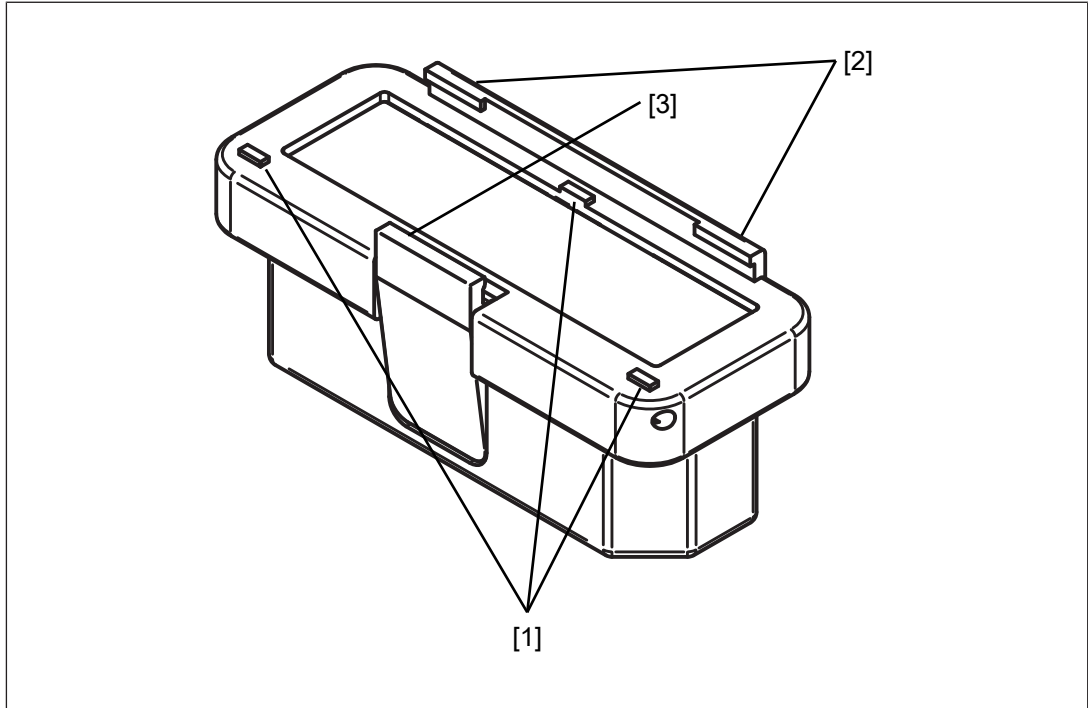
- ▶ Laser alignment aid PSEN opII Laserpointer
- ▶ 2 micro batteries (1.5 V, type AAA)



## 4 Application

### 4.1 Attach PSEN opII Laserpointer to transmitter or receiver

The PSEN opII Laserpointer is attached to the front plate of the transmitter or receiver using three contact points. The contact points are positioned laterally, next to the edge of the front plate of the transmitter or receiver. The lateral stop is used for lateral positioning of the PSEN opII Laserpointer. The clamping device serves as a frictional mounting for the PSEN opII Laserpointer on the transmitter or receiver.



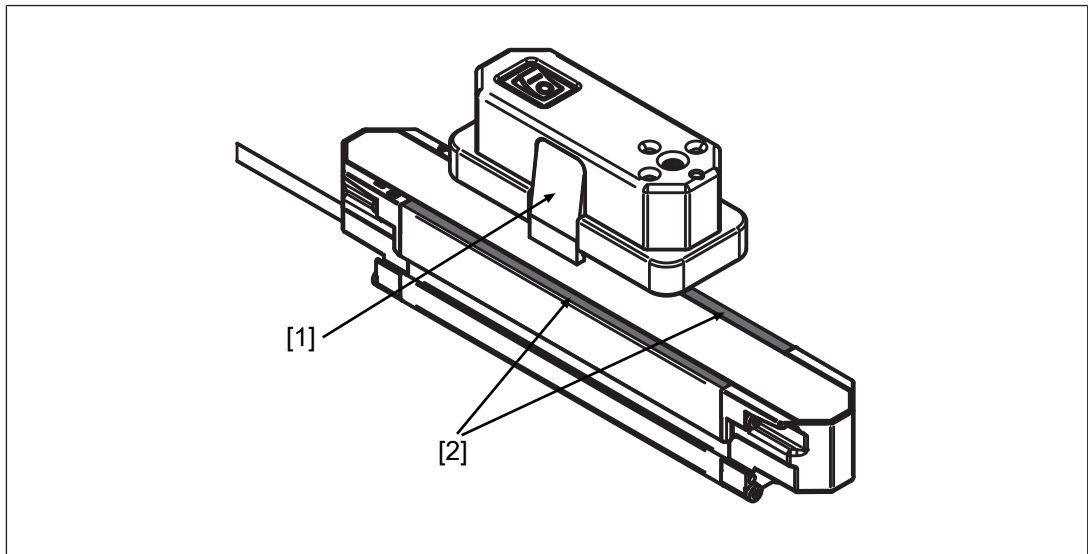
#### Legend

- [1] Contact points
- [2] Lateral stop
- [3] Clamping device

#### Place the PSEN opII Laserpointer on the transmitter/receiver

Press down the clamping device and place the PSEN opII Laserpointer on the transmitter/receiver.

All three contact points, the lateral stop and the clamping device must be located on the yellow profile of the transmitter/receiver.



### Legend

[1] Clamping device

[2] Surface lateral to the front plate of the transmitter/receiver on which the three contact points must be located

## 4.2 Align safety light grid

For the safety light grid to function properly, the transmitter and receiver must be aligned correctly.

### Optimum alignment using a laser alignment aid

Optimum alignment with a laser alignment aid is achieved when the following conditions apply:

- ▶ Beam from the laser alignment aid on the transmitter strikes the receiver **and**
- ▶ Beam from the laser alignment aid on the receiver strikes the transmitter

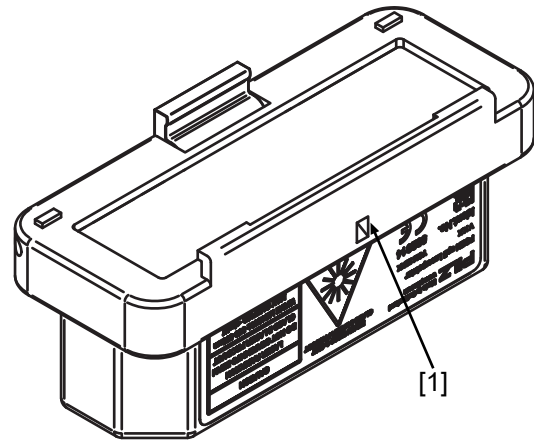
### Procedure

1. Switch on the PSEN opII Laserpointer via the pushbutton switch on the top.  
The PSEN opII Laserpointer must be supported on all three contact points when switched on.
2. During alignment you can orientate yourself by the fact that the laser point is reproduced at the same height as the PSEN opII Laserpointer on the front plate.
3. Use the PSEN opII Laserpointer to align the transmitter to the receiver.
4. Use the PSEN opII Laserpointer to align the receiver to the transmitter.

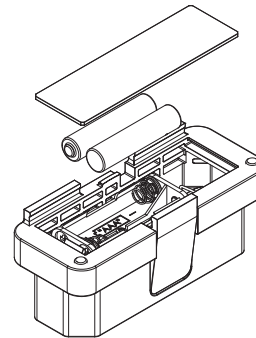
### 4.3 Battery change

Make sure that the pushbutton switch is in the OFF position.

Lift off the cover by pushing it upwards using a thin object that fits through the opening [1].

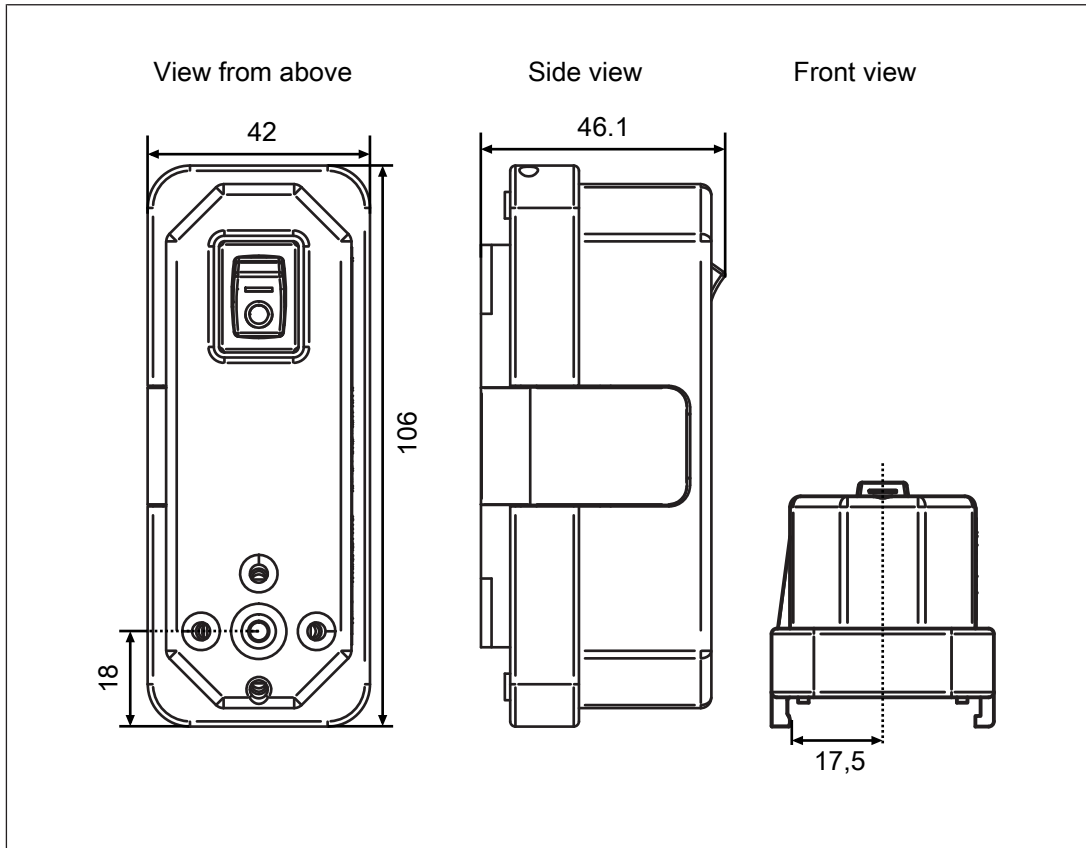


Remove both batteries and insert two new micro batteries (1.5 V, type AAA).



Close the cover.

## 5 Dimensions in mm



## 6 Technical details

<b>General</b>	
Approvals	<b>CE, FDA</b>
<b>Electrical data</b>	
Supply voltage	
Voltage	<b>3 V</b>
<b>Optical data</b>	
Laser class (DIN EN 60825-1)	<b>2</b>
<b>Environmental data</b>	
Condensation during operation	<b>Not permitted</b>
Protection type	
Housing	<b>IP30</b>
<b>Mechanical data</b>	
Material	<b>PA-HF, PP</b>
Dimensions	
Height	<b>106 mm</b>
Width	<b>42 mm</b>
Depth	<b>46,1 mm</b>
Weight	<b>90 g</b>

## 7 Order reference

Product type	Features	Order no.
PSEN opII Laserpointer	Laser alignment aid for the safety light grid series PSEN opII	632 014

# ► 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 95600621

## 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, Malta

+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



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

CMSE®, IndurANET p®, PAS4000®, PASscal®, PASconfig®, Pilz®, PIT®, PLID®, PMCPirotego®, PMClendo®, PMD®, PMi®, PNOZ®, Pirmo®, PSEN®, PSENi®, PSS®, PVIS®, SafetyBUS 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 mentioned in 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.