

HANDBUCH / MANUAL

SLCT-M-* / OMH-SLCT-*

DE Winkelspiegel / Montagehalterung

EN Inclined Mirror / Mounting Column



CE

DE

Es gelten die Allgemeinen Lieferbedingungen für Erzeugnisse und Leistungen der Elektroindustrie, herausgegeben vom Zentralverband Elektroindustrie (ZVEI) e.V. in ihrer neusten Fassung sowie die Ergänzungsklausel: "Erweiterter Eigentumsvorbehalt".

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With regard to the supply of products, the current issue of the following document is applicable: The General Terms of Delivery for Products and Services of the Electrical Industry, published by the Central Association of the Electrical Industry (Zentralverband Elektrotechnik und Elektroindustrie (ZVEI) e.V.) in its most recent version as well as the supplementary clause: "Expanded reservation of proprietorship"

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Introduction

Congratulations

You have chosen a device manufactured by Pepperl+Fuchs. Pepperl+Fuchs develops, produces and distributes electronic sensors and interface modules for the market of automation technology on a worldwide scale.

Before you install this device and put it into operation, please read the operating instructions thoroughly. The instructions and notes contained in this operating manual will guide you step-by-step through the installation and commissioning procedures to ensure trouble-free use of this product. By doing so, you:

- guarantee safe operation of the device
- can utilize the entire range of device functions
- avoid faulty operation and associated errors
- reduce costs from downtimes and incidental repairs
- increase the effectiveness and operating efficiency of your plant.

Store this operating manual somewhere safe in order to have it available for future work on the device.

Directly after opening the packaging, please ensure that the device is intact and that the package is complete.

Contact

If you have any questions about the device, its functions, or accessories, please contact us at:

Pepperl+Fuchs GmbH
Lilienthalstraße 200
68307 Mannheim
Telephone: +49 621 776-4411
Fax: +49 621 776-274411
E-Mail: fa-info@pepperl-fuchs.com

Symbols used

The following symbols are used in this manual:



Note!

This symbol draws your attention to important information.



Handling instructions

You will find handling instructions beside this symbol

1.1 Product documentation on the internet

You can view all the relevant documentation and additional information on your product at <http://www.pepperl-fuchs.com>. Simply enter the product name or model number in the **Product/Key word search** box and click **Search**.



Select your product from the list of search results. Click on the information you require in the product information list, e.g., **Technical documents**.



A list of all available documents is displayed.

2 Declaration of conformity

2.1 Declaration of conformity

This product was developed and manufactured under observance of the applicable European standards and guidelines.



Note!

A Declaration of Conformity can be requested from the manufacturer.

The product manufacturer, Pepperl+Fuchs GmbH, D-68307 Mannheim, has a certified quality assurance system that conforms to ISO 9001.



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3 Safety

3.1 Symbols relevant to safety



Danger!

This symbol indicates an imminent danger.

Non-observance will result in personal injury or death.



Warning!

This symbol indicates a possible fault or danger.

Non-observance may cause personal injury or serious property damage.



Caution!

This symbol indicates a possible fault.

Non-observance could interrupt devices and any connected facilities or systems, or result in their complete failure.

4 Product Description

4.1 Use and Application

Features

- Deflection of light beams
- Mounting of light grids, light curtains, and accessories

Description of an Inclined Mirror

An inclined mirror can deflect light beams with double reflection. The difference in direction between an incident beam and an emergent beam is determined by the design, and in special cases is 90°. The advantage of the inclined mirror is its rotational invariance around a preferred axis. Use of the floor mount, which can be ordered separately, is therefore recommended.

The inclined mirror is arranged so that light beams from the emitter can be deflected to the receiver. To deflect the protection field through 90°, the inclined mirror is positioned at an angle of 45°. When aligning the layout, ensure that all components are arranged vertically and at the same height. To roughly align the inclined mirror, turn it so that you can see the receiver reflected in the mirror when looking at it with the emitter behind you. **Each mirror reduces the sensing range by no more than 15%.** It is important to ensure that the mirror surfaces are clean. Scratch-free cleaning agents and lint-free cloths must be used for cleaning.

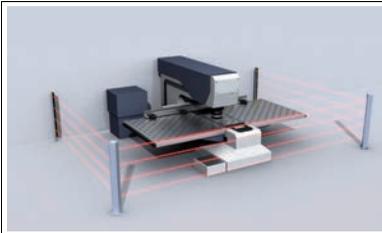


Figure 4.1 Typical application of inclined mirrors as a perimeter access



Figure 4.2 Inclined mirror SLCT-M-01* mounted on floor mount OMH-SLCT-200

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Description of the Mounting Column

The mounting column enables light grids, light curtains, and accessories to be mounted. A complete mounting column is required to mount an emitter and a receiver. The mounting column is also suitable as a corner profile if two independently acting light grids or light curtains are to be installed. Alternatively, it is possible to deflect the beam path using a mirror.

The cover plate supplied is pre-marked for mounting commonly used signal lamps. The rear panel available enables components such as sensors or cable glands to be mounted.

Use of the floor mount, which can be ordered separately, is recommended.



Figure 4.3

Recommended use of the mounting columns

Anchors, corrugated cable protection conduit, conduit connectors, bottoms, light switches and cable's (cords) are not part of the scope of delivery

4.2 Scope of Delivery

The scope of delivery includes:

OMH-SLCT-100-* mounting column for floor mounting and cover plate

- Mounting column
- Cover plate

OMH-SLCT-110-* mounting column for floor mounting with rear panel and cover plate

- Mounting column
- Rear panel
- 10 x threaded pins (M4 x 16)
- Cover plate

OMH-SLCT-120 side protection panels for mounting column with mounting set

- 2 x side protection panels
- 6 x socket head screws (M6 x 12)
- 6 x washers (A6, 4)
- 6 x spring t-slides (M6)

OMH-SLCT-200-* floor mount and mounting set

- Ground plate
- Intermediate plate
- Base plate
- 3 x fillister head screws (M8 x 16)
- 4 x socket head screws (M8 x 16)
- 4 x washers (A6, 4)
- 4 x spring disks (B8)
- 1 x dowel pin (5m6 x 16)
- 3 x threaded pins with peg (M8 x 16)
- 3 x socket head screws with flat head (M8 x 30)
- Drilling template

OMH-SLCT-M-01-* inclined mirror with cover plate

- Inclined mirror
- Cover plate

Bracket and cable are not included in the scope of delivery. See the appendix or visit <http://www.pepperl-fuchs.com> for a selection of compatible mounting aids and recommended cables.

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5 Installation

5.1 Preparation



Unpacking the unit

1. Check that all package contents are present and undamaged.
↳ If anything is damaged, inform the shipper and contact the supplier.
2. Check that all items are present and correct based on your order and the shipping documents.
↳ If you have any questions, please contact Pepperl+Fuchs.
3. Keep the original packing material in case you need to store or ship the unit at a later time.

5.2 Mounting

The following tools, which are not included in the scope of delivery, are required for mounting:

- Allen wrench, angled: 2.5 mm, 3 mm, 4 mm, 5 mm, 6 mm, 8 mm
- Spirit level or bubble level with 0.25° markings

5.2.1 Mounting the Floor Mount (OMH-SLCT-200)

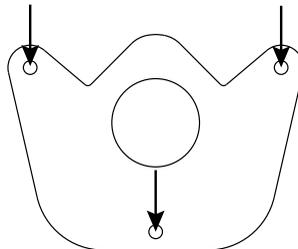


Before mounting the floor mount, ensure you have three ground anchors on hand. Mount the floor mount as follows:



Preparing the mounting holes on the floor

1. Ensure that the floor is level and clean.
2. Place the drilling template on the floor and align.

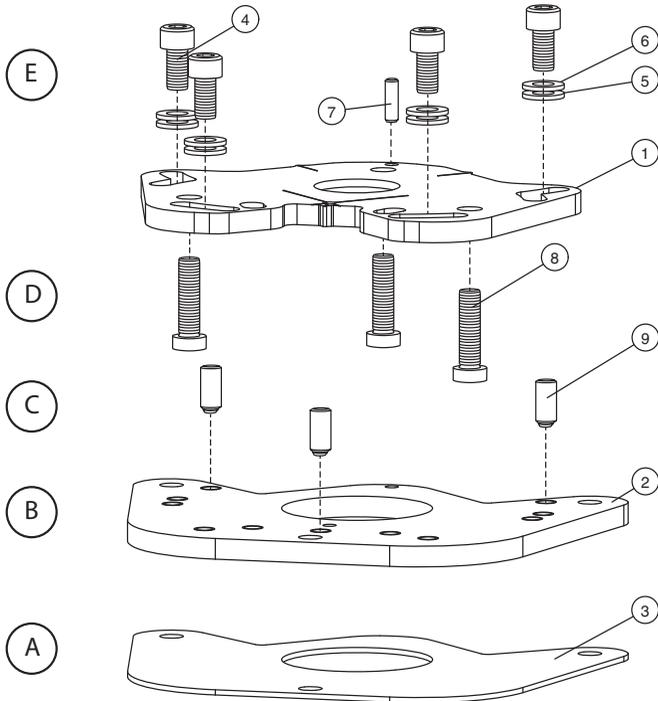


3. Mark the three drill holes using an appropriate tool.
4. Remove the drilling template and drill the corresponding holes at the marked points.
5. Clean the drilling points and fit the ground anchors.

↳ Preparation for mounting the floor mount is now complete.

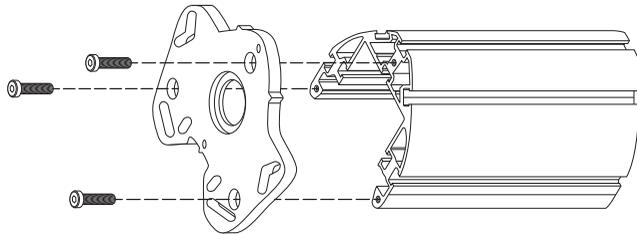
Mounting the Floor Mount

The floor mount is suitable for mounting inclined mirrors of type SLCT-M-01* and mounting columns of type OMH-SLCT-100 or OMH-SLCT-110. The floor mount features a ground plate (1), an intermediate plate (2), and a base plate (3). The ground plate can be rotated in relation to the intermediate plate. The intermediate plate can be tilted in relation to the base plate. The base plate is designed to make it easier to mount the floor mount on uneven or possibly brittle surfaces.



1. First place the base plate (3) on the floor. Ensure that the ground anchors are guided through the three mounting holes. See step A.
2. Then place the intermediate plate (2) over the base plate (3). Once again, ensure that the ground anchors are guided cleanly through the three mounting holes. See step B.

3. Screw the three M8 x 16 threaded pins (9) into the threaded holes provided. These three threaded pins align the intermediate plate (2) into a horizontal position. See step C.
4. When subsequently mounting the floor mount, ensure that the screws are tightened to a maximum torque of 25 Nm. Screw down the intermediate plate (2) over the ground anchors. The three threaded pins (9) now press the base plate firmly onto the floor.
5. When subsequently mounting the floor mount, ensure that the screws are tightened to a maximum torque of 25 Nm. The ground plate (1) is screwed to the cut face of the mirror profile or mounting profile using the three M8 x 30 screws (8). So that the screw heads do not protrude and prevent further mounting, it must be ensured that the three indentations in the ground plate are correctly aligned.



6. When subsequently mounting the floor mount, ensure that the screws are tightened to a maximum torque of 25 Nm. Place the column with the ground plate (1) onto the intermediate plate (2). Attach the ground plate to the intermediate plate (2) using four M8 x 16 socket head screws (4), as well as washers and spring disks. Tighten the screws slightly. See section E.
7. Push the dowel pin into the hole provided. The dowel pin must be inserted through both the ground plate and the intermediate plate.
8. Align the mounting bracket or the inclined mirror and tighten the four socket head screws.

↳ The floor mount is secured.



Caution!

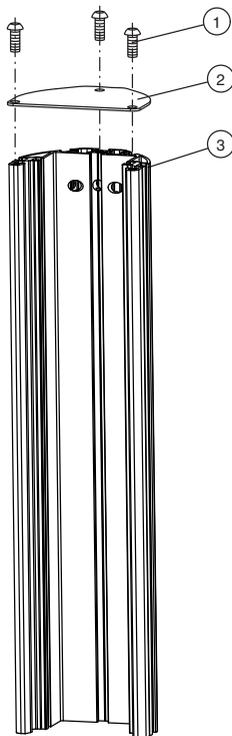
Risk of injury

Ask another person to assist when mounting the mounting column or the inclined mirror.

5.2.2 Mounting a Mounting Column (OMH-SLCT-100)

Instructions for mounting the mounting column to the floor mount see chapter 5.2.1.

Mounting the Cover Plate



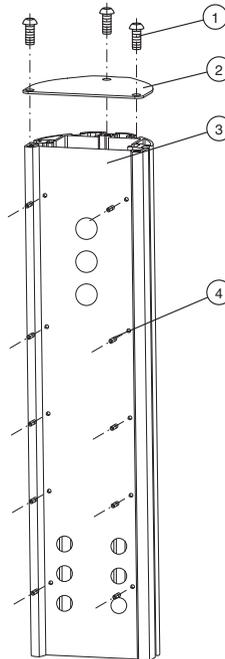
1. Place the cover plate onto the mounting column.
2. Secure the cover plate to the mounting column using the three fillister head screws (M8 x 20) supplied.
3. The cover plate is secured.

5.2.3

Mounting the Mounting Column with Rear Panel (OMH-SLCT-110)

Instructions for mounting the mounting column to the floor mount see chapter 5.2.1.

Mounting the Rear Panel



1. First screw the supplied threaded pins (M4 x 16) part way into the rear panel.
2. Slide the long edge of the rear panel into the front left-hand or right-hand groove of the mounting column.
3. Screw in the threaded pins from top to bottom.

↳ The rear panel is secured.



Caution!

Risk of injury

Ask another person to assist when mounting the mounting column or the inclined mirror.

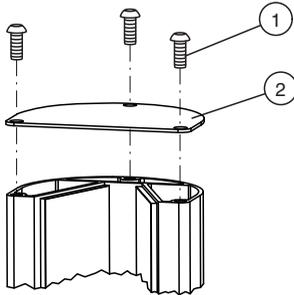
Mounting the Cover Plate

1. Place the cover plate onto the mounting column.
2. Secure the cover plate to the mounting column using the three fillister head screws (M8 x 20) supplied.
3. The cover plate is secured.

5.2.4 Mounting the Inclined Mirror (OMH-SLCT-M-01)

Instructions for mounting the inclined mirror to the floor mount see chapter 5.2.1.

Mounting the Cover Plate



1. Place the cover plate onto the inclined mirror.
2. Secure the cover plate to the inclined mirror using the three fillister head screws (M8 x 20) supplied.
3. The cover plate is secured.



Caution!

Risk of injury

The mirrors are made from glass. Ensure that the glass does not cause injury.

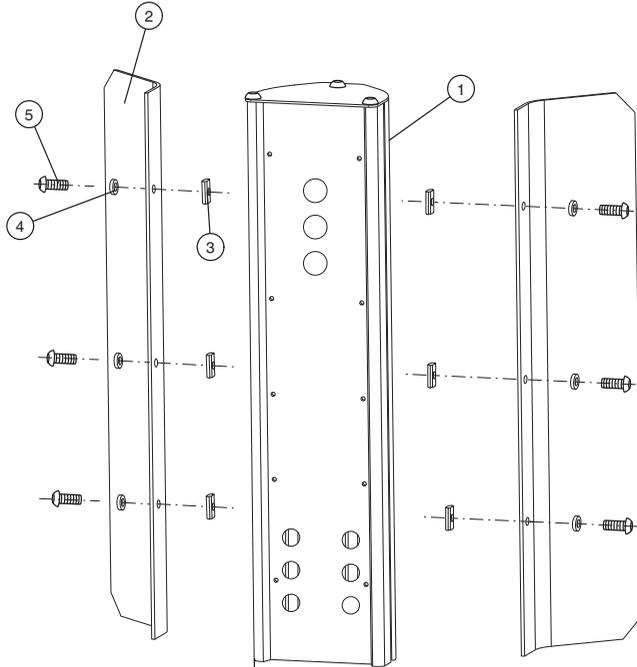
The inclined mirror is arranged so that light beams from the emitter can be deflected to the receiver. To deflect the protection field through 90°, the inclined mirror is positioned at an angle of 45°. When aligning the layout, ensure that all components are arranged vertically and at the same height. To roughly align the inclined mirror, turn it so that you can see the receiver reflected in the mirror when looking at it with the emitter behind you.

5.2.5

Mounting the Side Protection Panels onto the Mounting Column (OMH-SLCT-120)



Mounting the Side Protection Panels



1. Push the t-slides (3) into the slot provided on the mounting column. Position the t-slides approximately in line with the holes in the side protection panels.
2. Slide the washers (4) onto the socket head screws (5).
3. Secure the side protection panels to the mounting column using the supplied socket head screws.

↳ The side protection panels are installed.

5.3

Storage and transport

For storage and transport purposes, package the unit using shockproof packaging material and protect it against moisture. The best method of protection is to package the unit using the original packaging. Furthermore, ensure that the ambient conditions are within allowable range.

6 Commissioning

6.1 Final Assembly

Checking for Correct Mounting and Alignment

1. Check that the inclined mirror is correctly aligned.
2. Check all screw connections and tighten as necessary.

7 Maintenance and Repair

7.1 Maintenance

To get the best possible performance out of your device, keep the optical unit on the device clean and clean it when necessary.

Observe the following instructions when cleaning:

- Do not touch the optical unit with your fingers.
- Do not immerse the device in water. Do not spray the device with water or other fluids.
- Do not use a scouring agent to clean the surface of the device.
- Use a cotton or paper cloth moistened with water or isopropyl alcohol (not soaked).
- Remove any residual alcohol using a cotton or paper cloth moistened with distilled water (not soaked).
- Wipe the surface of the device dry using a lint-free cloth.

7.2 Repair

The devices must not be repaired, changed or manipulated. If there is a defect, the product must always be replaced with an original device.

8 Appendix

8.1 Accessories

The following products are available as accessories:

Suitable Accessories for the Mounting Column

No.	Designation	Illustration	Description
1	OMH-SLCT-01		Quick-lock and adjustment device
2	OMH-SLCT-02		Mounting aid for OMH-SLCT-01
3	OMH-SLCT-03		Mounting aid complete with adjustment component
4	OMH-SLCT-04		Mounting aid complete with adjustment component (moveable bearing)
5	OMH-SLCT-05		Mounting aid complete with adjustment component
6	OMH-SLCT-10		Clamp mounting suitable for 6 mm ... 11.5 mm grooves
7	OMH-SLCT-11		Reverse clamp mounting suitable for 8.5 mm ... 10.5 mm grooves
8	AA SLCT-01		Profile alignment aid; simplified alignment of the SLCS and SLCT safety light curtains

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Note!

Slotted Plate for Mounting Aid

To make it easier to thread the t-slides, a slotted plate is included with some accessories. To prevent the t-slides from clipping into the upper hole, cover the hole with the slotted plate. Then slide the t-slides into the guide.

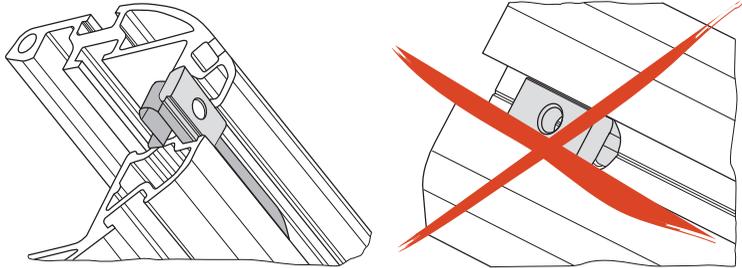


Figure 8.1 Proper assembling of the t-slides with using a slotted plate

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8.1.1

Screw Mounting

Standardized screws can be used as mounting aids. The screws secure the position of the light curtain in the event of thermal expansion, vibration, or shock.

A minimum of two screws must be used to secure the emitter and receiver unit. If vibrations or shocks are expected, we recommend attaching screws at intervals of 500 mm.

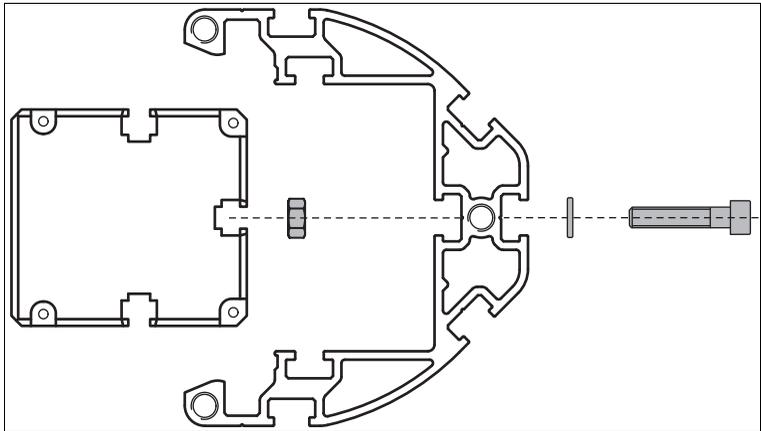


Figure 8.2 Screw Mounting

8.1.2

Mounting Aid OMH-SLCT-01

Model number: OMH-SLCT-01

The emitters/receivers can be secured using mounting aids that grip the dovetail guide. Dovetail guides are located on three sides of the profile. When mounting and aligning the unit, avoid subjecting the profile to mechanical tension.

A minimum of two mounting aids must be used to secure the emitter and receiver unit. If vibrations or shocks are expected, we recommend attaching mounting aids at intervals of 500 mm.

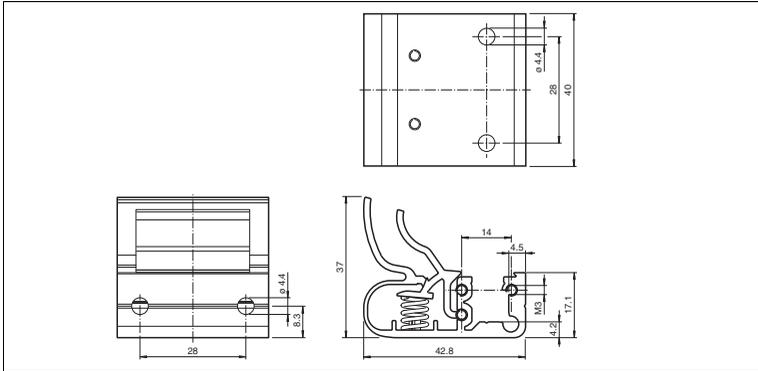


Figure 8.3 Dimensional drawing of the mounting aid OMH-SLCT-01

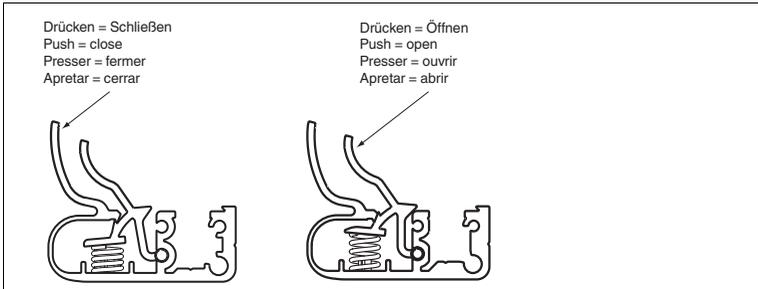


Figure 8.4 Opening and closing of the mounting aid OMH-SLCT-01

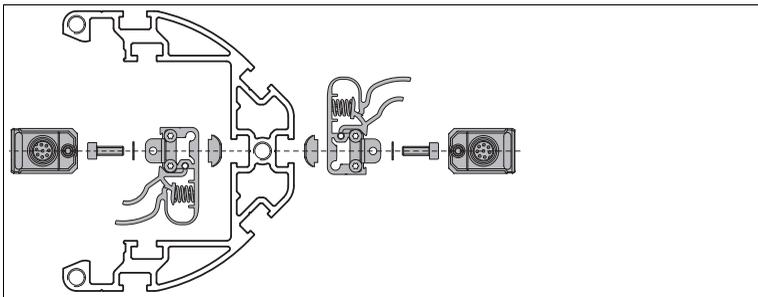


Figure 8.5 Example of mounting a mounting aid OMH-SLCT-01 to a mounting column

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8.1.3 Mounting Aid OMH-SLCT-02

Model number: OMH-SLCT-02

The OMH-SLCT-02 mounting aid is used as a fixed bearing and secures the position of the light curtain in the event of thermal expansion, vibration, or shock.

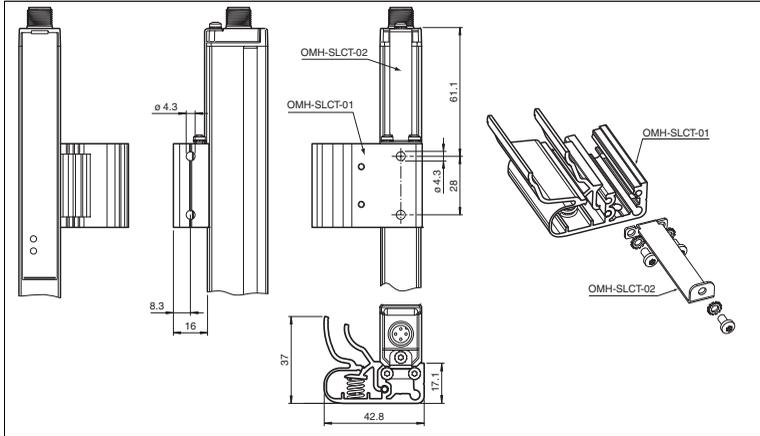


Figure 8.6 Dimensional drawing and assembly of the mounting aid OMH-SLCT-02

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8.1.4

Mounting Aids OMH-SLCT-03 and OMH-SLCT-04

Model number (fixed bearing): OMH-SLCT-03

Model number (moveable bearing): OMH-SLCT-04

The longer mounting aid OMH-SLCT-03 has a higher clamping force than the shorter mounting aid OMH-SLCT-04 and is therefore the preferred option for assuming the function of the fixed bearing. A minimum of one fixed bearing and one moveable bearing is required to mount the device. If more than two mounting aids are required for reasons of stability, the use of further moveable bearings is recommended. If vibrations or shocks are expected, we recommend attaching mounting aids at intervals of 500 mm.

The mounting aid OMH-SLCT-03 can also be used to connect two light grids. If the mounting aid is to be used for this application, the metal bracket should be removed.

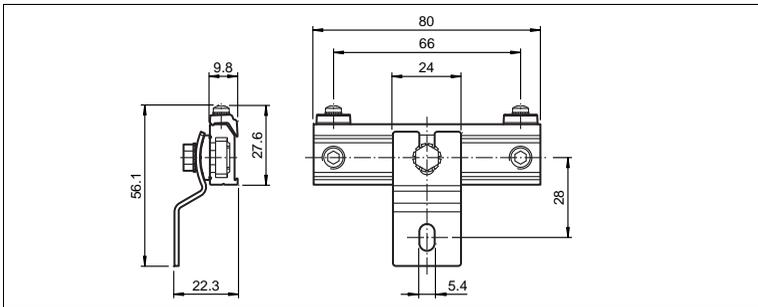


Figure 8.7 Mounting aid OMH-SLCT-03 (fixed bearing)

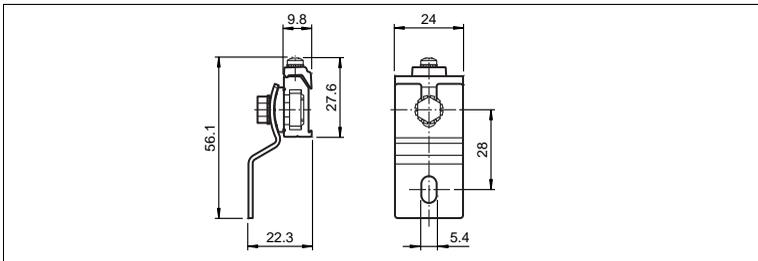


Figure 8.8 Mounting aid OMH-SLCT-04 (loose bearing)

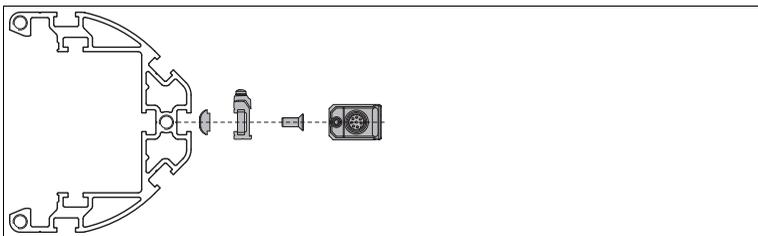


Figure 8.9 Example of mounting a mounting aid OMH-SLCT-03 or OMH-SLCT-04 to a mounting column

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8.1.5 Mounting Aid OMH-SLCT-05

Model number: OMH-SLCT-05

The emitters/receivers can be secured using mounting aids that grip the dovetail guide. Dovetail guides are located on three sides of the profile. When mounting and aligning the unit, avoid subjecting the profile to mechanical tension.

A minimum of two mounting aids must be used to secure the emitter and receiver unit. If vibrations or shocks are expected, we recommend attaching mounting aids at intervals of 500 mm.

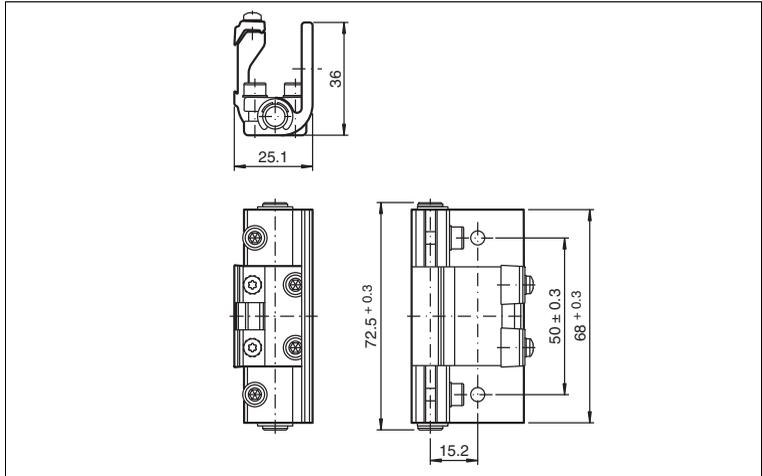


Figure 8.10 Dimensional drawing of mounting aid OMH-SLCT-05

8.1.6 Mounting Aid OMH-SLCT-10

Model number: OMH-SLCT-10

The emitters/receivers can be secured using mounting aids that grip the dovetail guide. Dovetail guides are located on three sides of the profile. When mounting and aligning the unit, avoid subjecting the profile to mechanical tension.

A minimum of two mounting aids must be used to secure the emitter and receiver unit. If vibrations or shocks are expected, we recommend attaching mounting aids at intervals of 500 mm.

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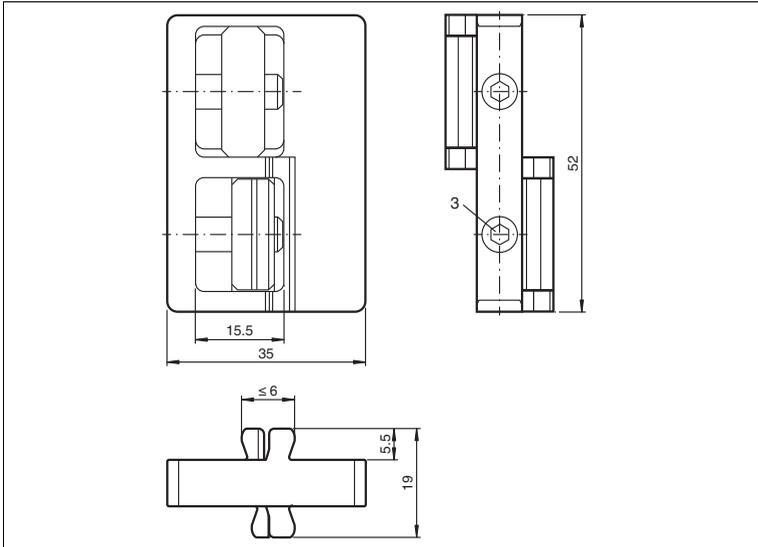


Figure 8.11 Dimensional drawing of mounting aid OMH-SLCT-10

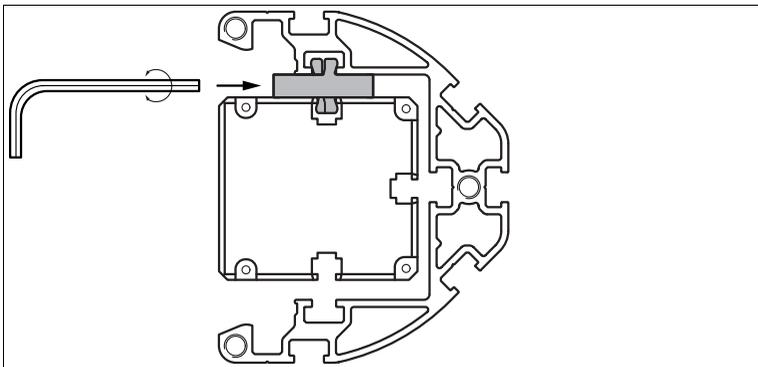


Figure 8.12 Assembling or disassembling using mounting aid OMH-SLCT-10 (using allen wrench SW3)

8.1.7 Mounting Aid OMH-SLCT-11

Model number: OMH-SLCT-11

The emitters/receivers can be secured using mounting aids that grip the dovetail guide. Dovetail guides are located on three sides of the profile. When mounting and aligning the unit, avoid subjecting the profile to mechanical tension.

A minimum of two mounting aids must be used to secure the emitter and receiver unit. If vibrations or shocks are expected, we recommend attaching mounting aids at intervals of 500 mm.

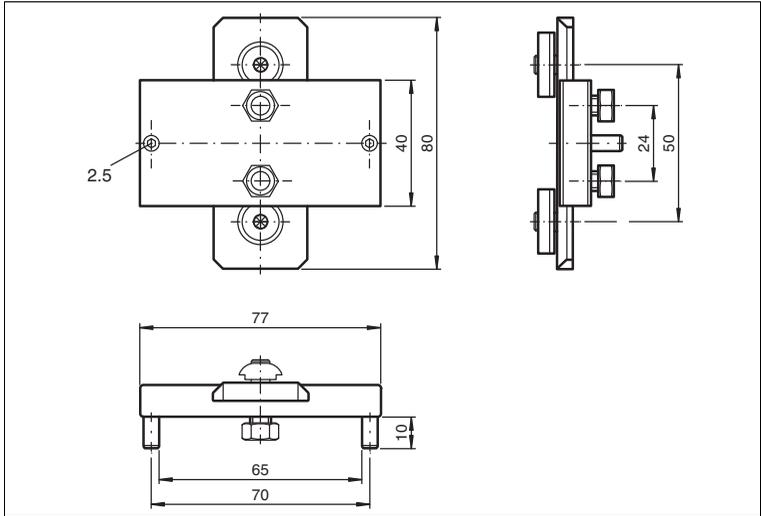


Figure 8.13 Dimensional drawing of mounting aid OMH-SLCT-11

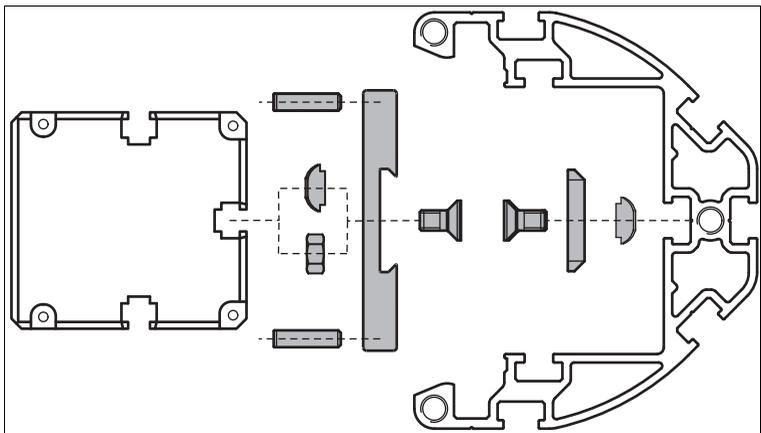


Figure 8.14 Assembling or disassembling using mounting aid OMH-SLCT-11

8.1.8

Alignment aid

Order code: AA-SLCT-01

The transmitter and receiver should always be aligned at the same height in parallel to one another. The AA-SLCT-01 alignment aid with bubble level assists the perpendicular alignment of the profile. The AA-SLCT-01 alignment aid is simply clipped into the groove on the side of the profile.

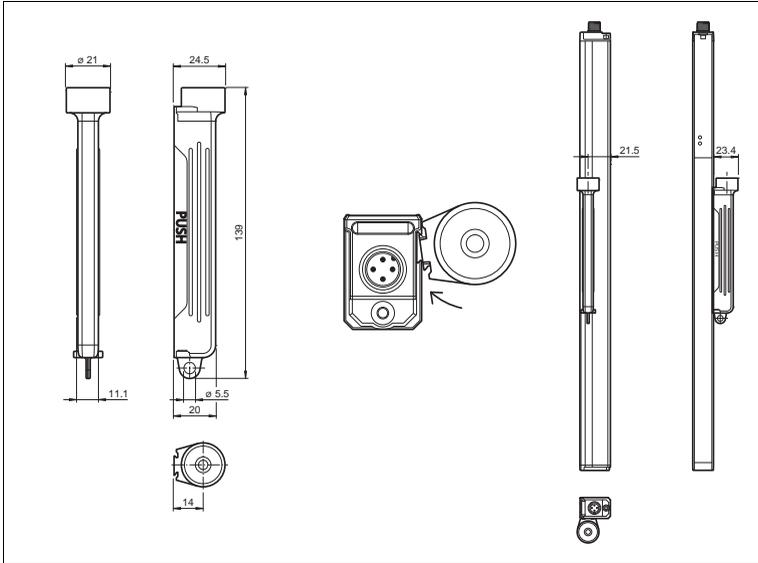


Figure 8.15 Dimensional drawing and assembly of the alignment AA-SLCT-01

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