



## INSTALLATION AND OPERATING INSTRUCTIONS

2-point magnetic field sensor

MFS01-K-KHC-P2-PNP  
MFS01-S-KHC-P2-PNP  
MFS02-K-KHC-P2-PNP  
MFS02-S-KHC-P2-PNP  
DDOC00537

THE KNOW-HOW FACTORY



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## 1 Supporting documents

### NOTICE



Read through the installation and operating instructions before installing or working with the product.

The installation and operating instructions contain important notes for your personal safety. They must be read and understood by all persons who work with or handle the product during any phase of the product lifetime.



The documents listed below are available for download on our website [www.zimmer-group.com](http://www.zimmer-group.com).

- Installation and operating instructions
- Catalogs, drawings, CAD data, performance data
- Information on accessories
- Technical data sheets
- General Terms and Conditions, including warranty information.

⇒ Only those documents currently available on the website are valid.

In these installation and operating instructions, "product" refers to the product designation on the title page!

## 2 Safety notices

### NOTICE



In accordance with the EC Machinery Directive, the product is not a safety component.

## 3 Proper use

### NOTICE



#### Material damage and malfunction in case of non-compliance

The product is only to be used in its original state with its original accessories, with no unauthorized changes and within the stipulated parameter limits and operating conditions.

Any other or secondary use is deemed improper.

- ▶ Operate the product only in compliance with the associated installation and operating instructions.
- ▶ Operate the product only when it is in a technical condition that corresponds to the guaranteed parameters and operating conditions.

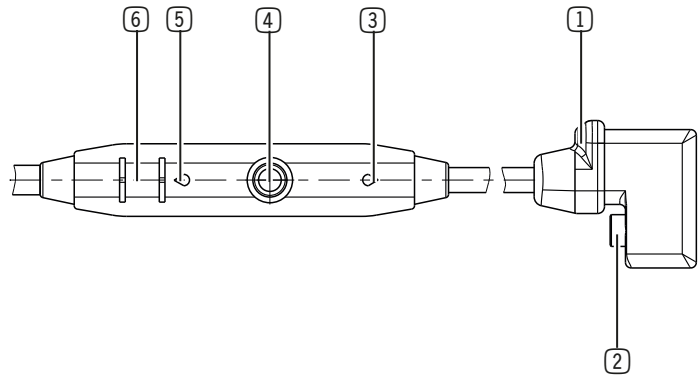
⇒ Zimmer GmbH shall accept no liability for any damage caused by improper use. The operator bears sole responsibility.

## 4 Personnel qualification

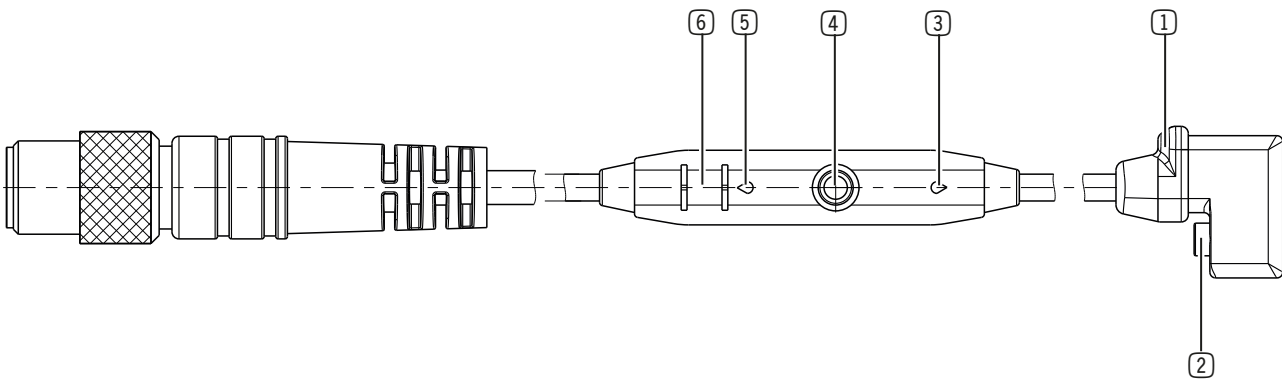
Installation, commissioning and maintenance may only be performed by trained specialists. These persons must have read and understood the installation and operating instructions in full.

## 5 Product description

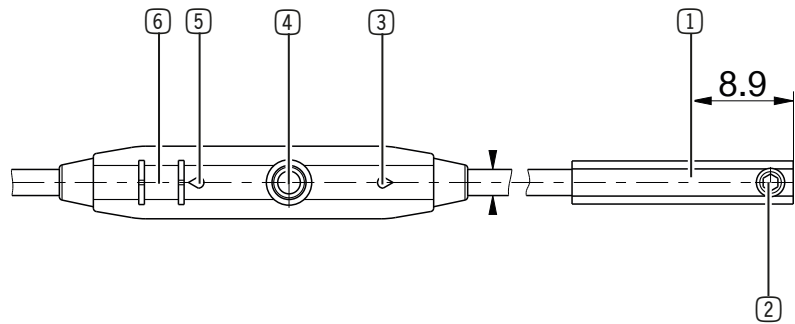
### MFS01-K-KHC-P2-PNP



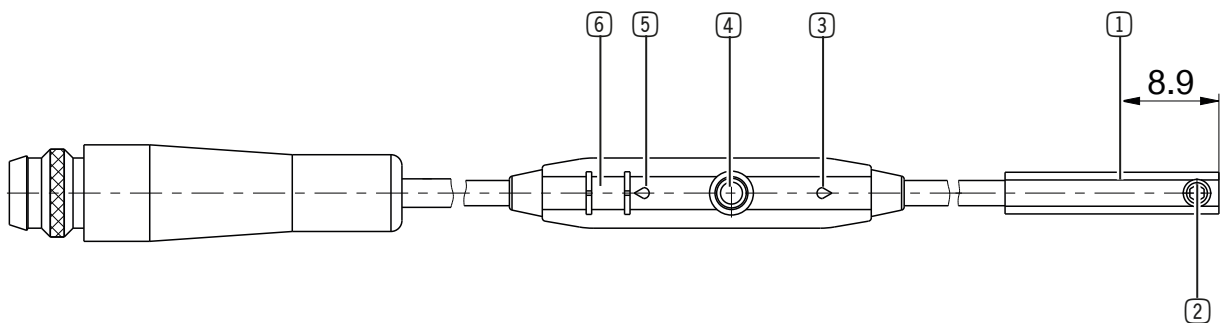
### MFS01-S-KHC-P2-PNP



### MFS02-K-KHC-P2-PNP



### MFS02-S-KHC-P2-PNP



- |                                |                       |
|--------------------------------|-----------------------|
| ① Center of the sensor element | ④ Teach-in button     |
| ② Mounting screw               | ⑤ LED display         |
| ③ LED display                  | ⑥ Ribs for cable ties |

## 6 Technical data

### INFORMATION



- ▶ You can find the information in the technical data sheet on our website.
- ▶ This data varies within the series, depending on the specific design.
- ▶ Please contact Customer Service if you have any questions.

## 7 Installation

### 7.1 Installing MFS01-S-KHC-P2-PNP and MFS01-K-KHC-P2-PNP

### NOTICE



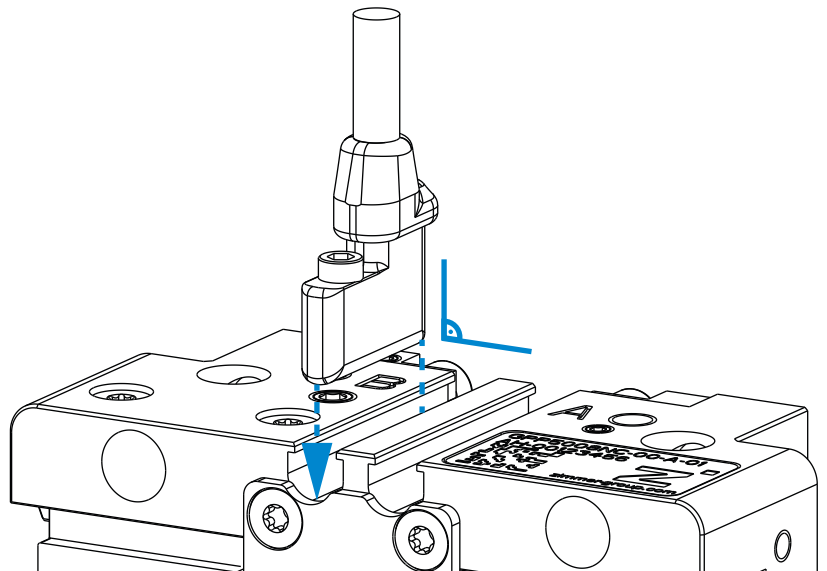
- ▶ Use the included Allen key and/or plastic pin for installation.

### INFORMATION



- ▶ The sensors can be used for all Zimmer GmbH products with a compatible C-groove and switching distance.
- ▶ You can find the information in the technical data sheet on our website.

- ▶ Slide the sensor into the C-groove from above.
- ▶ Align the sensor in the center.

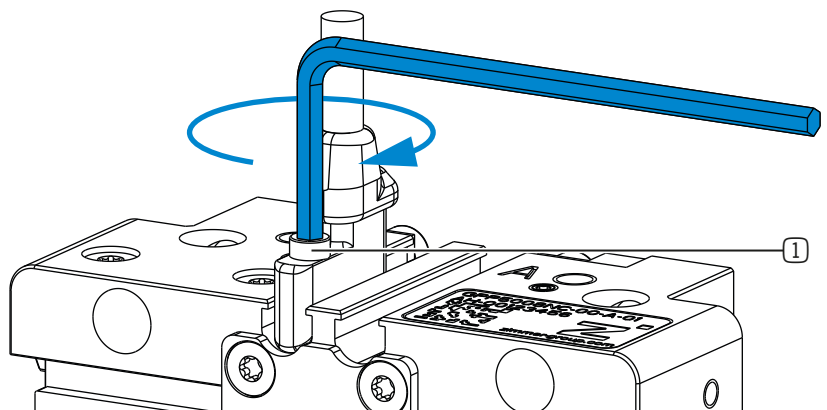


### INFORMATION



- ▶ Comply with the tightening torque of 0.1 Nm.

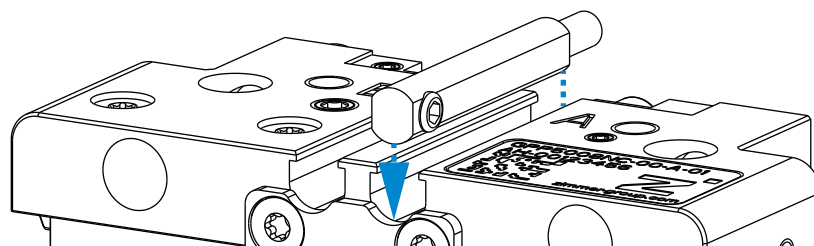
- ▶ Tighten the mounting screw using an Allen key.



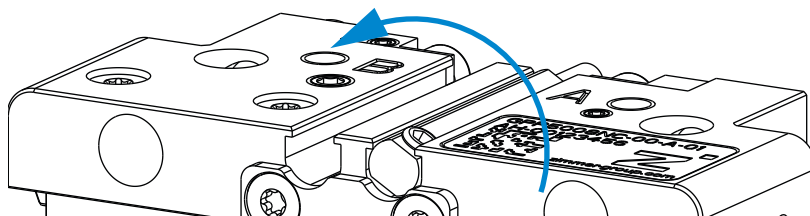
① Mounting screw

## 7.2 Installing MFS02-S-KHC-P2-PNP and MFS02-K-KHC-P2-PNP

- ▶ Push the sensor into the C-groove from above with the mounting screw pointing downwards.
- ▶ Align the sensor in the center.



- ▶ Turn the sensor by 90° so that the mounting screw points upwards.

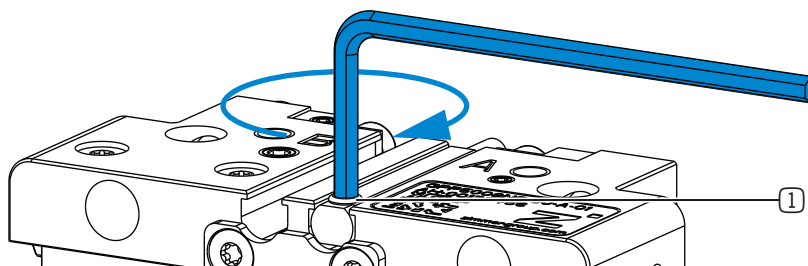


### INFORMATION



- ▶ Comply with the tightening torque of 0.1 Nm.

- ▶ Tighten the mounting screw using an Allen key.



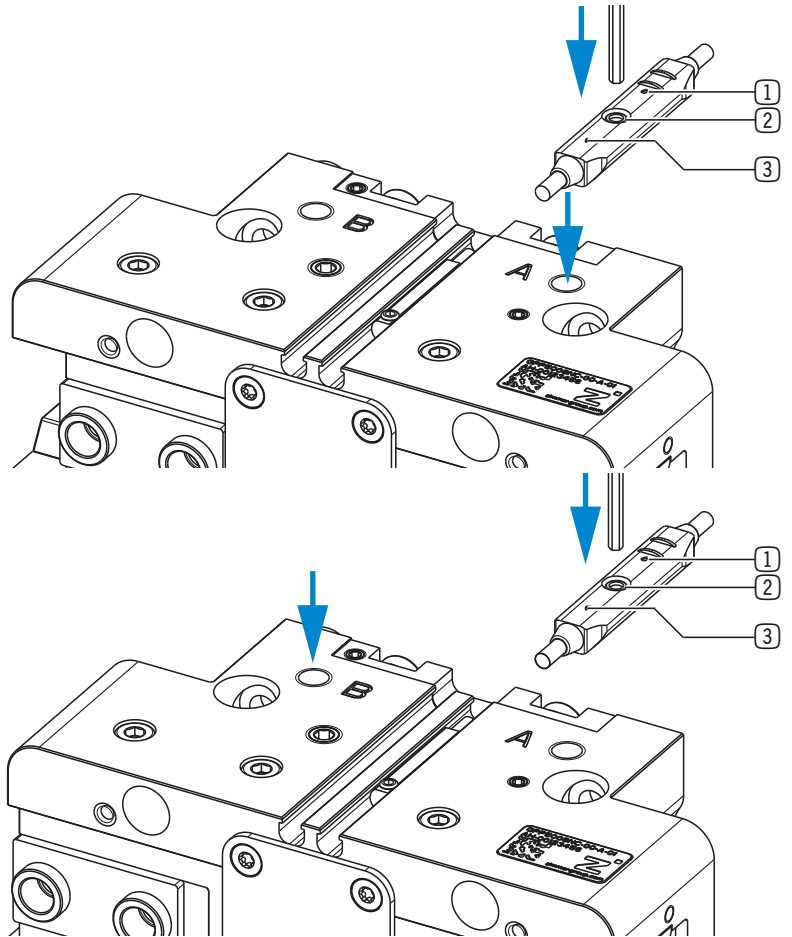
① Mounting screw

## 8 Commissioning

- ▶ Connect the sensor to the operating voltage.

### 8.1 Defining switching points

- ▶ Move the piston to the position of the first switching point.
- ▶ Press the teach-in button until the LED display flashes.
- ▶ Release the teach-in button.
  - ⇒ The LED display of the first switching point lights up continuously.
  - ⇒ The first switching point is saved.
  - ⇒ The second LED display flashes.
- ▶ Move the piston to the position of the second switching point.
- ▶ Briefly press the teach-in button.
  - ⇒ The second LED display lights up continuously.
  - ⇒ The second switching point is saved.



- ① LED display
- ② Teach-in button
- ③ LED display

### 8.2 Checking switching points

- ▶ Slide the sensor to the first switching point.
  - ▶ Check whether the LED display for the first switching point lights up.
  - ▶ If the LED display does not light up, check the operating conditions and define the switching point again.
- ▶ Slide the sensor to the second switching point.
  - ▶ Check whether the LED display for the first switching point goes out and the LED display for the second switching point lights up.
  - ▶ If the LED display for the first switching point does not go out or the LED display for the second switching point does not light up, check the operating conditions and define the switching point again.



## 9 Maintenance

Operation of the product is maintenance-free.

- ▶ Despite the maintenance-free performance mentioned, check the product regularly for secure screw and plug-in connectors.
- ▶ Clean the product if it is dirty.

## 10 Decommissioning/disposal

### INFORMATION



When the product reaches the end of its operational phase, it can be completely disassembled and disposed of.

- ▶ Disconnect the product completely from the power supply.
- ▶ Dispose of the components properly according to the material groups.
- ▶ Comply with the locally applicable environmental and disposal regulations.

## 11 Declaration of Conformity

As defined by the EC Directive 2014/30/EU on electromagnetic compatibility

### Name and address of the manufacturer:

#### Zimmer GmbH

Im Salmenkopf  
77866 Rheinau, Germany  
+49 7844 9138 0  
[info@zimmer-group.com](mailto:info@zimmer-group.com)  
[www.zimmer-group.com](http://www.zimmer-group.com)

We hereby declare that the products described below

<b>Product designation:</b>	2-point magnetic field sensor
<b>Type designation:</b>	MFS01-K-KHC-P2-PNP MFS01-S-KHC-P2-PNP MFS02-K-KHC-P2-PNP MFS02-S-KHC-P2-PNP

conform to the requirements of the Electromagnetic Compatibility Directive 2014/30/EU in its design and the version we put on the market.

The following harmonized standards have been used:

DIN EN ISO 12100	Safety of machinery - General principles for design - Risk assessment and risk reduction
DIN EN IEC 60947-5-2	Low-voltage switchgear - Part 5-2: Control units and switch elements - proximity switches
DIN EN IEC 63000	Technical documentation for evaluating electrical and electronic equipment regarding the restriction of hazardous substances

A full list of applied standards can be obtained from the manufacturer.

Kurt Ross  
Authorized representative for the compilation of relevant technical documents

Rheinau, Germany, 2019-10-31  
(Place and date of issuance)

Martin Zimmer  
(Legally binding signature)  
Managing Partner