ifm electronic

CE

Installation instructions
Heat sink / heat conductor

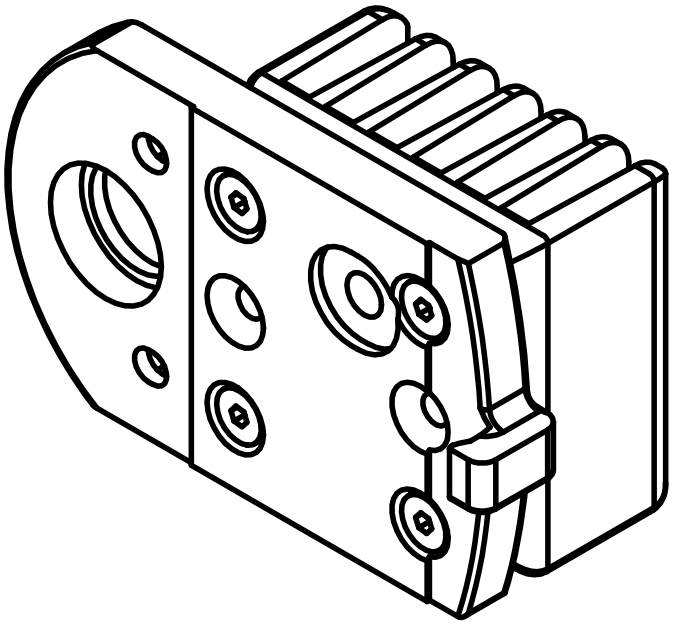
UK

efector250

E3D302

E3D303

E3D304



80231900 / 00 09 / 2015

Contents

1 Preliminary note

This document is intended for specialists. These specialists are people who are qualified by their appropriate training and their experience to see risks and to avoid possible hazards that may be caused during operation or maintenance of the accessories. The document contains information about the correct handling of the accessories.

Read this document before use to familiarise yourself with operating conditions and installation. Keep this document during the entire duration of use of the accessories.

1.1 Symbols used

▶ Instructions
> Reaction, result
[…] Designation of keys, buttons or indications
→ Cross-reference


Important note
Non-compliance may result in malfunction or interference


Information
Supplementary note

2 Functions and features

The heat sink E3D302, E3D304 and the heat conductor E3D303 are accessories for O3D3xx type devices. The heat sinks and heat conductors are used to reduce the surface temperature of the devices depending on the operating mode.

The heat sinks can only be used in combination with a heat conductor.

The heat conductor can be used without heat sink if it is mounted to a fixture with sufficient thermal conductivity.

3 Items supplied

3.1 E3D302

- Heat sink and heat conductor, pre-mounted
- 2 cylinder head bolts M5x70
- 2 cylinder head bolts M5x75
- 2 M5 nuts
- Clamp
- Installation instructions

3.2 E3D303

- Heat conductor and 2 M5 nuts, pre-mounted
- 2 cylinder head bolts M5x70
- 2 cylinder head bolts M5x75
- 4 countersunk head screws M5x16
- Installation instructions

3.3 E3D304

- 2 heat sinks and heat conductors, pre-mounted
- 2 cylinder head bolts M5x75
- 2 M5 nuts
- Clamp
- Installation instructions

4 Installation

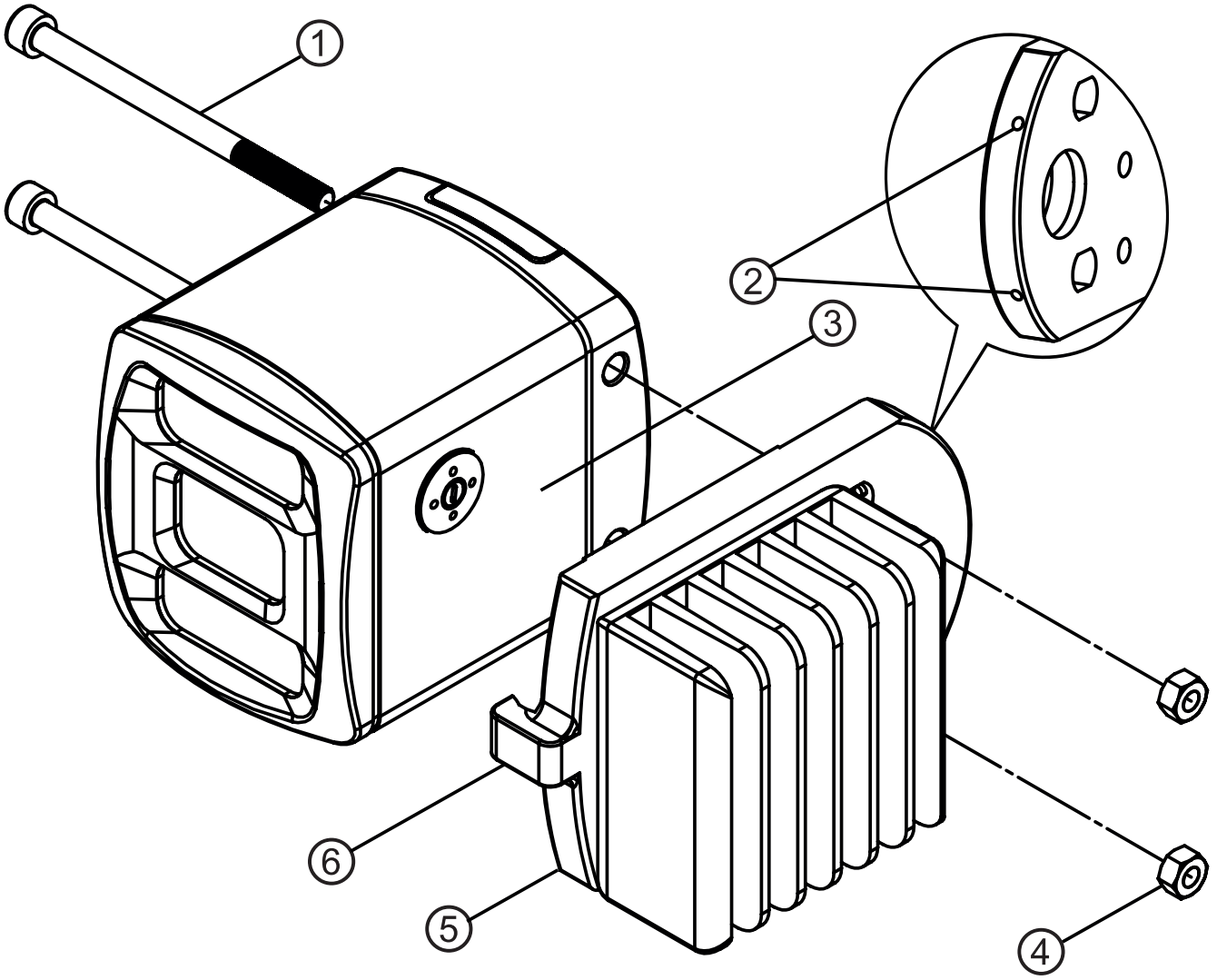
4.1 Mount E3D302

The article E3D302 consists of a heat sink with pre-mounted heat conductor.

Always mount the heat sink with vertically aligned cooling fins. This increases the degree of efficiency.

4.1.1 Mount E3D302 for horizontal operation of the device

Below you find a description how to mount the article E3D302 for horizontal operation of the device. The heat sink and the heat conductor are pre-mounted for horizontal operation of the device.



Follow the instructions:

1. Hold the heat conductor ⑤ on one of the two device sides ③.

> The hook ⑥ of the heat conductor gets caught in the front of the device.

2. Insert nuts ④ in the heat conductor and tighten by hand with the cylinder head bolts M5x75 ①.

> If the device has countersunk bore holes for the bolt heads, use the cylinder head bolts M5x70.

3. Align the heat conductor ⑤ in a straight line to the device.

4. Tighten set screws ② evenly.

> Tightening reduces the distance between the heat conductor and the device. The heat conductor must lie flat on the device without air gap.

5. Tighten cylinder head bolts ① with maximum 0,5 - 1,0 Nm.
6. Check that the heat conductor is aligned in a straight line and lies flat on the device without gap.

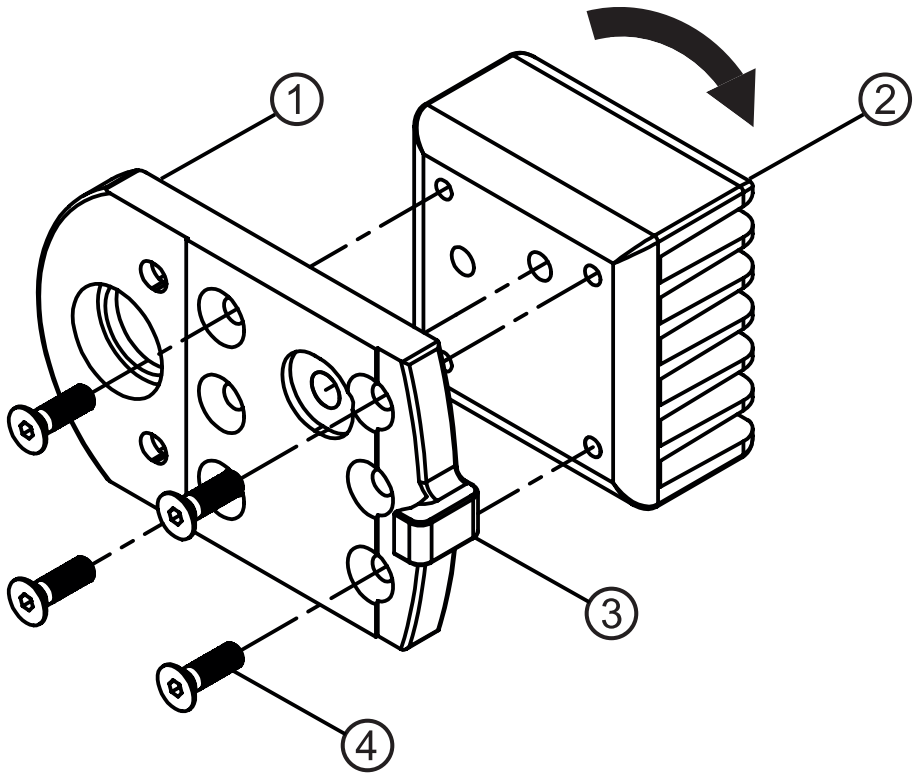
> The surface temperature can only be reduced if the heat conductor lies flat on the device without gap.

7. Mount the device on a 14 mm rod using a clamp.

4.1.2 Mount E3D302 for vertical operation of the device

Below you find a description how to mount the article E3D302 for vertical operation of the device.

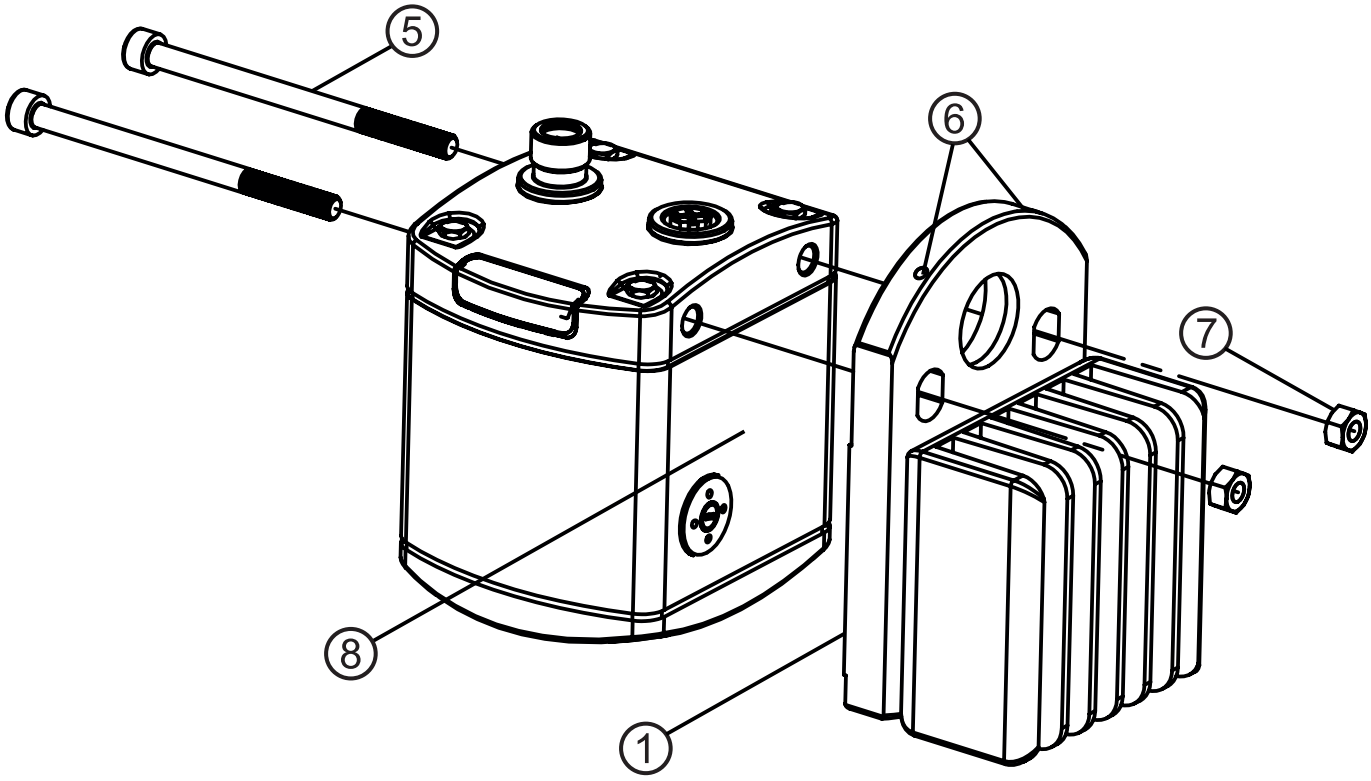
As the heat sink and the heat conductor are pre-mounted for horizontal operation of the device, the heat sink must be rotated by 90 degrees.



Follow the instructions:

1. Loosen countersunk head screws ④.
2. Rotate the heat sink ② by 90 degrees.

> The cooling fins must be aligned vertically (see figure on the right).



3. Place the heat sink ② on the bore holes of the heat conductor ①.
4. Tighten countersunk head screws ④ with maximum 2,0 - 3,0 Nm.
5. Hold the heat conductor ① on one of the two device sides ⑧.

> The hook ③ of the heat conductor gets caught in the front of the device.

6. Insert nuts ⑦ in the heat conductor and tighten by hand with cylinder head bolts M5x75 ⑤.

> If the device has countersunk bore holes for the bolt heads, use the cylinder head bolts M5x70.

7. Align the heat conductor ① in a straight line to the device.
8. Tighten set screws ⑥ evenly.

> Tightening reduces the distance between the heat conductor and the device. The heat conductor must lie flat on the device without air gap.

9. Tighten cylinder head bolts ⑤ with maximum 0,5 - 1,0 Nm.
10. Check that the heat conductor is aligned in a straight line and lies flat on the device without gap.

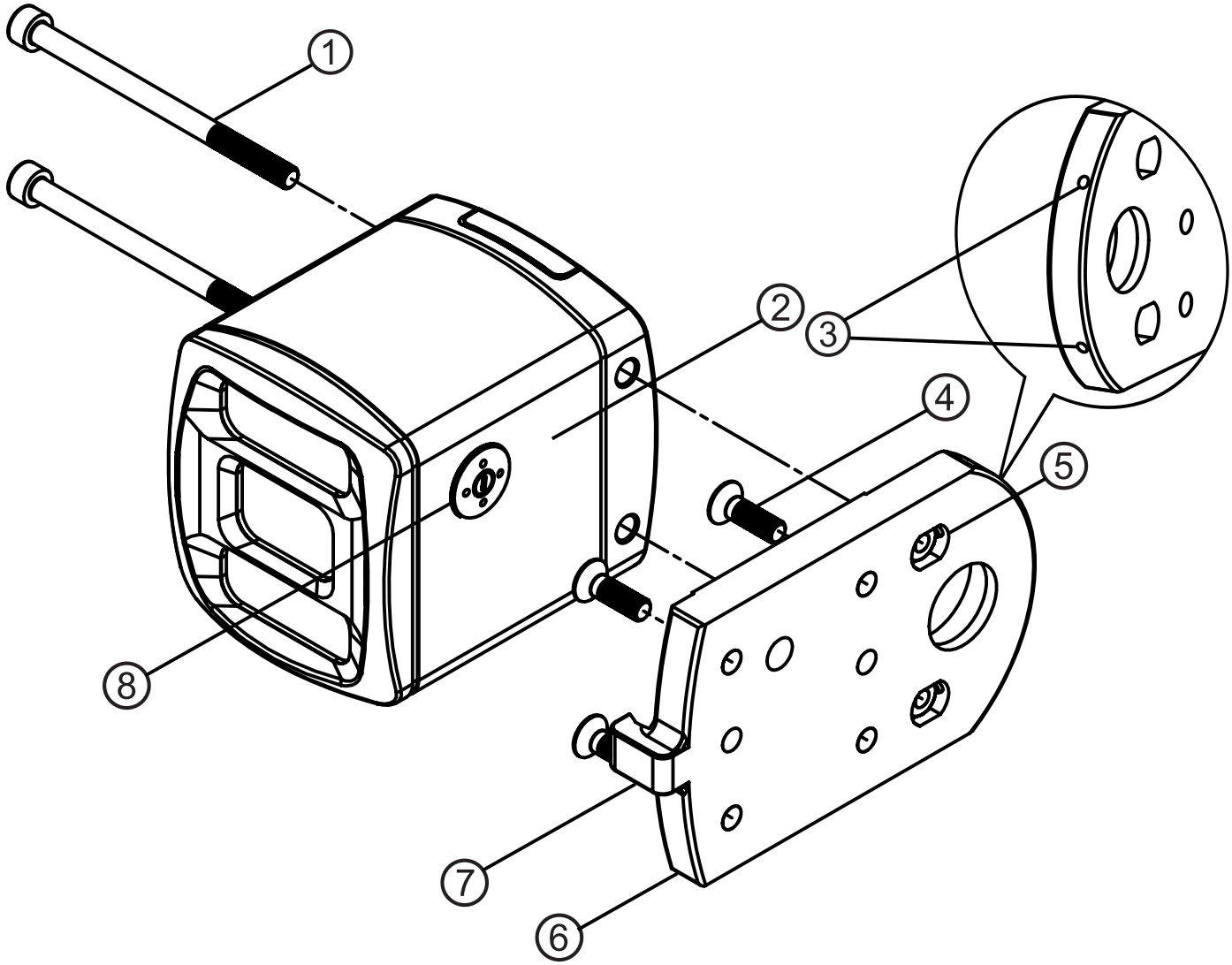
> The surface temperature can only be reduced if the heat conductor lies flat on the device without gap.

11. Mount the device on a 14 mm rod using a clamp.

4.2 Mount E3D303

The article E3D303 consists of a heat conductor with pre-mounted nuts.

Mount the heat conductor E3D303 to a fixture with sufficient heat conductivity.



Below you find a description how to mount the heat conductor to a fixture and how to connect the device to the heat conductor.

Follow the instructions:

1. Mount the heat conductor ⑥ to the fixture with countersunk head screws ④ with maximum 3,0 Nm.
2. Hold one of the two device sides ② on the heat conductor ⑥.

> The fixture can cover the focus adjustment screw ⑧ . Mount the device with the opposite device side to the heat conductor.

> The hook ⑦ of the heat conductor gets caught in the front of the device.

3. Tighten cylinder head bolts M5x75 ① with nuts ⑤ by hand.

> If the device has countersunk bore holes for the bolt heads, use the cylinder head bolts M5x70.

4. Align the device in a straight line to the heat conductor ⑥.
5. Tighten set screws ③ evenly.

> Tightening reduces the distance between the heat conductor and the device. The heat conductor must lie flat on the device without air gap.

6. Tighten cylinder head bolts ① with maximum 0,5 - 1,0 Nm.
7. Check that the device is aligned in a straight line and lies flat on the heat conductor without gap.

> The surface temperature can only be reduced if the device lies flat on the heat conductor without gap.

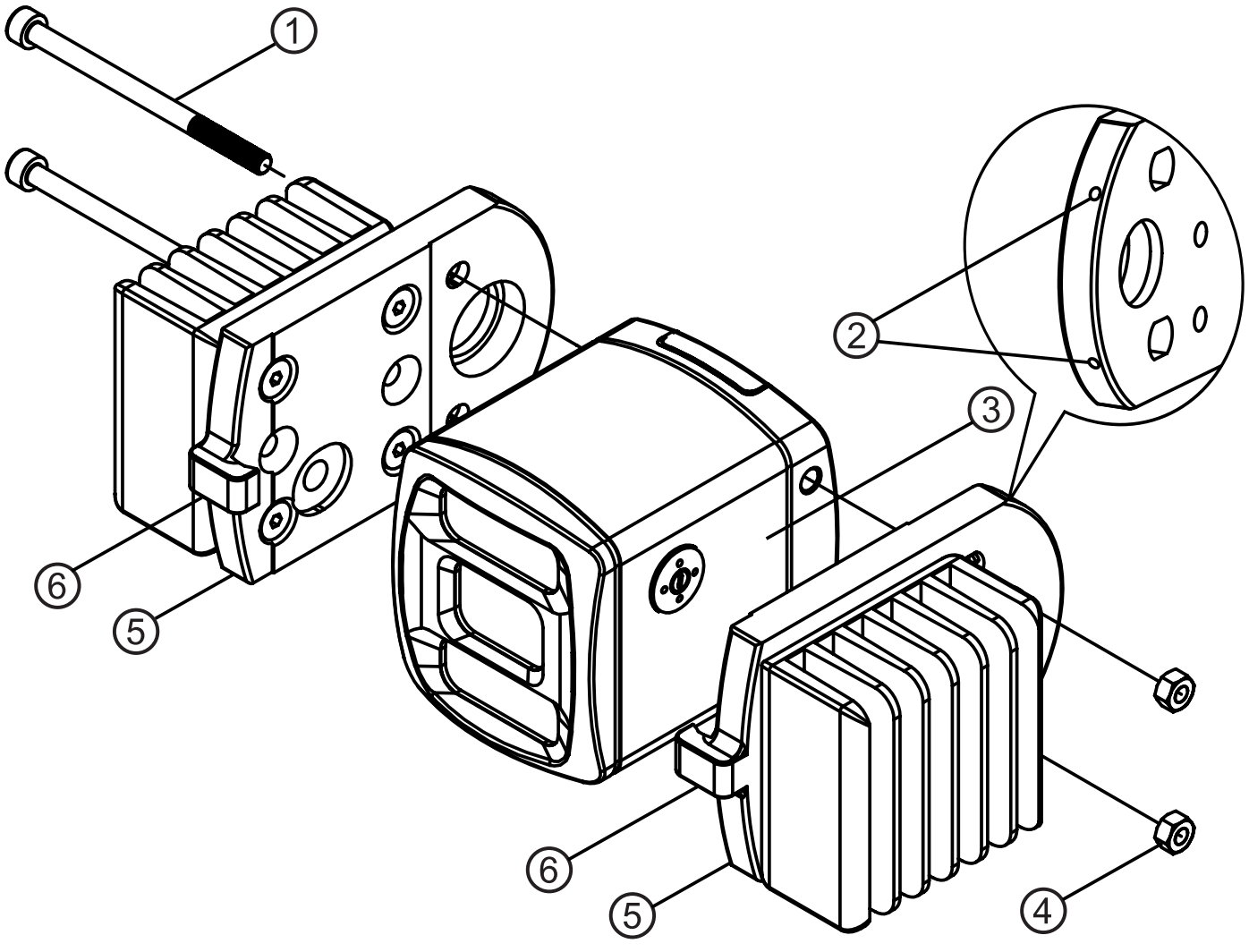
4.3 Mount E3D304

The article E3D304 consists of two heat sinks with pre-mounted heat conductors.

Always mount the heat sinks with vertically aligned cooling fins. This increases the degree of efficiency.

4.3.1 Mount E3D304 for horizontal operation of the device

Below you find a description how to mount the article E3D304 for horizontal operation of the device. The heat sinks and heat conductors are pre-mounted for horizontal operation of the device.



Follow the instructions:

1. Hold heat conductors ⑤ on the device sides ③.

> The hooks ⑥ of the heat conductors get caught in the front of the device.

2. Insert nuts ④ in the heat conductor and tighten by hand with cylinder head bolts M5x75 ①.
3. Align heat conductors ⑤ in a straight line to the device.
4. Tighten set screws ② evenly.

> Tightening reduces the distance between the heat conductor and the device. The heat conductor must lie flat on the device without air gap.

5. Tighten cylinder head bolts ① with maximum 0,5 - 1,0 Nm.
6. Check that the heat conductors are aligned in a straight line and lie flat on the device without gap.

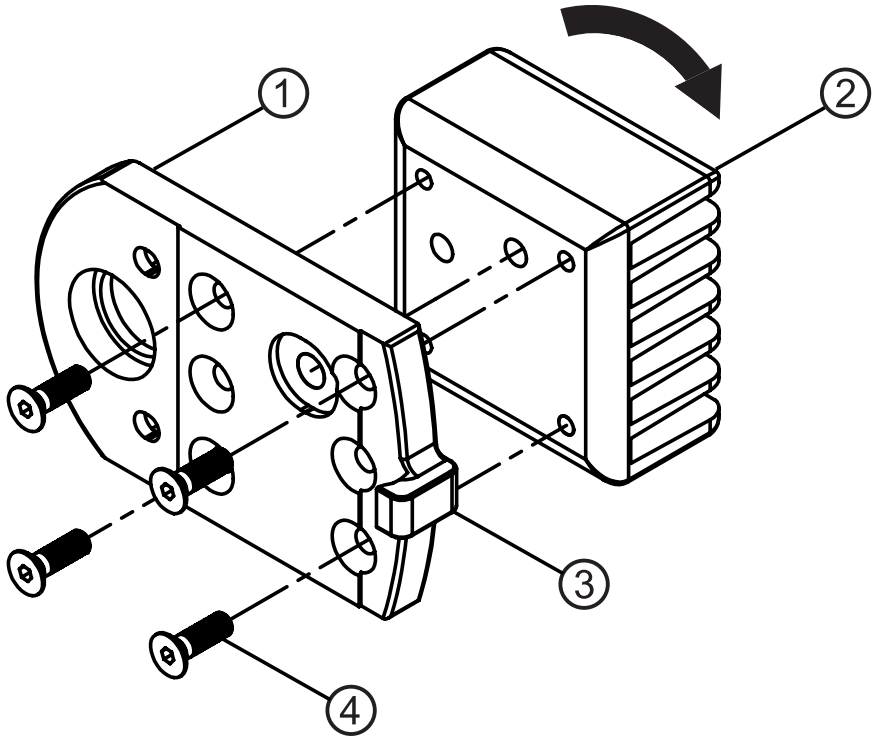
> The surface temperature can only be reduced if the heat conductor lies flat on the device without gap.

7. Mount the device on a 14 mm rod using a clamp.

4.3.2 Mount E3D304 for vertical operation of the device

Below you find a description how to mount the article E3D304 for vertical operation of the device.

As the heat sinks and heat conductors are pre-mounted for horizontal operation of the device, the heat sinks must be rotated by 90 degrees.



Follow the instructions:

1. Loosen countersunk head screws ④.
2. Rotate both heat sinks ② by 90 degrees.

> The cooling fins must be aligned vertically (see figure on the right).

3. Place both heat sinks ② on the bore holes of the heat conductors ①.
4. Tighten countersunk head screws ④ with maximum 2,0 - 3,0 Nm.
5. Hold the heat conductors ① on the device sides ⑧.

> The hooks ③ of the heat conductors get caught in the front of the device.

6. Insert nuts ⑦ in the heat conductor and tighten by hand with cylinder head bolts M5x75 ⑤.
7. Align the heat conductors ① in a straight line to the device.
8. Tighten set screws ⑥ evenly.

> Tightening reduces the distance between the heat conductor and the device. The heat conductor must lie flat on the device without air gap.

9. Tighten cylinder head bolts ⑤ with maximum 0,5 - 1,0 Nm.
10. Check that the heat conductors are aligned in a straight line and lie flat on the device without gap.

> The surface temperature can only be reduced if the heat conductors lie flat on the device without gap.

11. Mount the device on a 14 mm rod using a clamp.