



MPB10

Operating Instruction
MPB10



8027383:

MOUNTING INSTRUCTION en

Procedure

1. Identify the mounting position
2. Determine the number of sensors needed
3. Select an appropriate mounting type
4. Mounting

1 Identify the mounting position(s)

Divide the machine into basic parts:

- Shaft(s)
- Bearing, coupling, belt or gearbox
- Driven element (pump, fan, compressor etc.)

To achieve the best results, the MPB10 should be as close as possible to the machine element to be monitored.

NOTE

Mount the sensor on solid metal as close as possible to the bearings or part of interest, but not on thin covers or non-rigid parts

For an overall condition you can place just one sensor in the middle.

When monitoring rotating equipment, you want to position the sensor close to the bearing, because the vibration of rotating parts is transmitted via the bearing.

If this is not possible, the sensor should be mounted on a surface that is in firm contact with the part to be monitored. As with the other mounting methods, mounting the sensor on covers, e. g. the fan cover or other flexible components, is not recommended. Such components typically have mechanical resonance frequencies within the frequency band of interest, making a meaningful observation of the vibration of interest (motor, bearing, etc.) almost impossible.

CAUTION

- Do not mount the sensor on flexible parts
- Do not mount the sensor on pump/fan housings
- Do not mount the sensor on thin fan cowls or cooling fins
- Do not mount the sensor on a clutch or belt guard
- Do not mount the sensor on seals

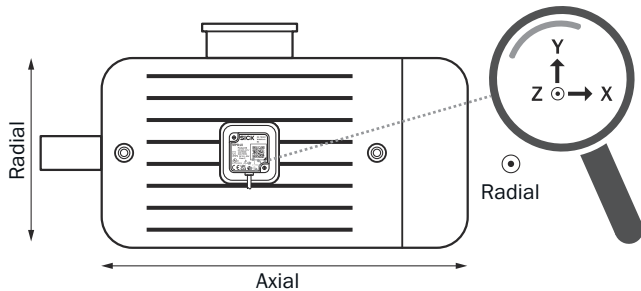
NOTE

Mount the sensor on surfaces free from dirt, grease and thick layers of paint.

Direction of movements

Rotating equipment

For rotating equipment, one of the sensor axes (coordinate system is printed on the sensors housing) should be aligned with the rotating axis (axial direction), while the other two sensor axes should be oriented radial to the rotating axis of the machine (radial direction).



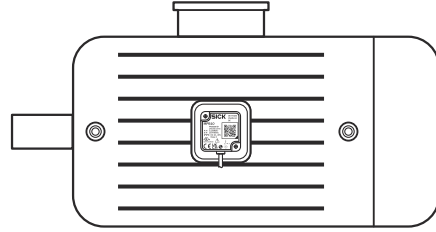
Linear movements

When monitoring linear movements, ensure that one axis of the sensor is aligned in the direction of this movement.

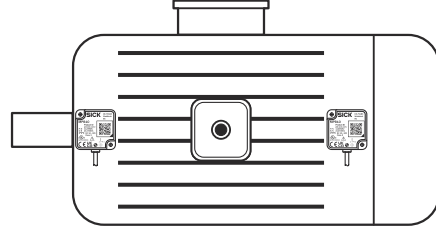
2 Determine the number of sensors needed

The number of sensors depends on the level of detail needed.

- A general machine condition could be monitored by using one sensor per machine. This is only recommended for smaller motors or machines where only fundamental changes in conditions should be recognized.



- Detailed bearing conditions can be detected by using one sensor for each bearing. Therefore two sensors would be needed for a typical electrical motor with two bearing seats.



- If you need to have the condition of a specific bearing or component, you need to use one sensor per component.

3 Select an appropriate mounting type

Comparison of mounting types

Screw

- Best frequency response
- Higher installation effort required
- Hole(s) must be drilled in the support surface

Glue

- Good frequency response
- No drilling necessary, yet durable

Magnet

- Vibration readings may be affected
- Regularly check that hold and alignment are correct for this mounting method

WARNING

It should be noted that when adapter plates and holders are used, the contact temperature is strongly influenced, since the sensor no longer measures directly on the object to be monitored.

4 Mounting instructions

4.1 Screw (Recommended)

Option 1: Fastening on flat surface

1. Prepare the flat surface with two M3 threaded holes according to the **figure 1**. The screw should be 10 mm and longer so the hole should be at least 4mm deep.
2. Clean the mounting surface and remove any paint if necessary.
3. Apply thermal paste for optimum contact temperature measurement.
4. Screw the sensor in place accordingly with a maximum torque of 1 Nm. Screws according to EN ISO 4762 are recommended. See Operating instruction section 6.2. The usage of screw locking fluid is recommended.

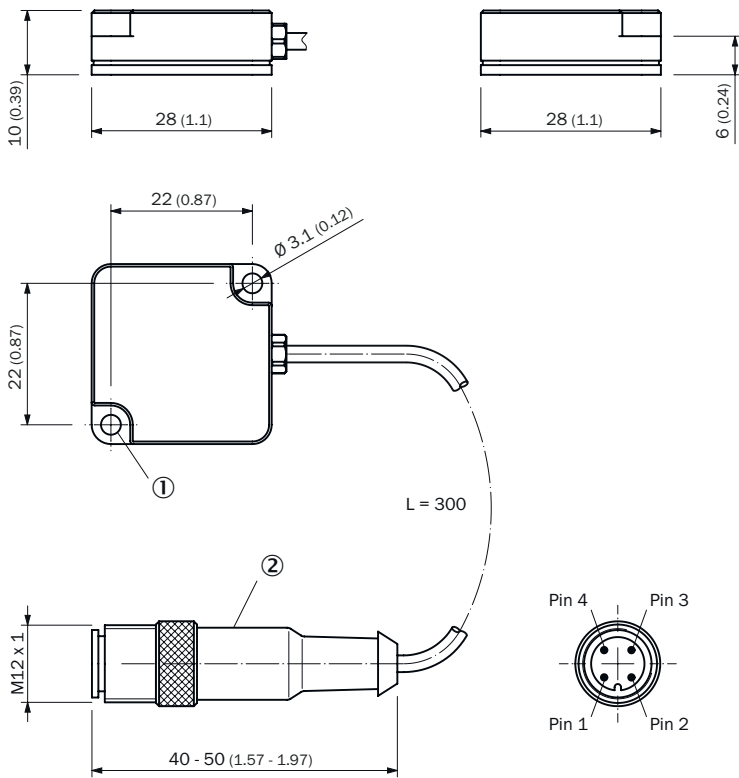


Figure 1: Dimensional drawing

- ① M3 threaded mounting hole
- ② Connection

Option 2: Fastening on curved/uneven surface with only one threaded hole (Adapter plate needed)

To be able to mount the sensor on an uneven or curved surface, one of the below listed mounting plates should be used. This means that the sensor can be fixed with only one screw.

NOTE

If there is no threaded hole on the motor for a M4, M5, or M8 screw, you have to make a threaded hole yourself. Please refer to the motor documentation to find a suitable place and to avoid any damage of the motor.

1. Screw on the adapter plate with the countersunk screw. Make sure that the adapter plate is correctly aligned with the axis alignment of the sensor.
2. Screw the sensor in place accordingly with a maximum torque of 1 Nm. Screws according to EN ISO 4762 are recommended. See Operating instruction section 6.2. The usage of thread locking fluid is recommended.



4.2 Glue

In principle, a screw connection is always recommended. If this is not possible, an epoxy-based adhesive can be used. These high-quality adhesives are used in applications requiring high strength bonds. Epoxy adhesives are superior in thermal and chemical resistance to other common adhesives.

Use one of the listed [Adapter plates](#) to be able to exchange the sensor.

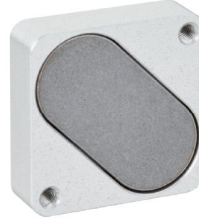
1. Prepare the adhesive according to its application description and observe the adhesive's hazard warnings regarding protective equipment.
2. Glue the mounting plate on the motor. Make sure that the adapter plate is correctly aligned with the axis alignment of the sensor.
3. Allow the adhesive to cure.
4. Screw the sensor in place accordingly with a maximum torque of 1 Nm. Screws according to EN ISO 4762 are recommended. See operating instruction section 6.2. The usage of thread locking fluid is recommended.

4.3 Magnet (for temporary mounting)

NOTE

Magnetic forces can cause the material to crush or shatter. Do not let your hands get between the bracket and any ferromagnetic material. Wear gloves and protective goggles when applying.




1. Screw the sensor to the magnetic holder (see adapter plates below) on the side of the magnetic holder shown in the image, according to the hole pattern, with a maximum torque of 1 Nm. Screws according to EN ISO 4762 are recommended. See Operating instruction section 6.2. The usage of thread locking fluid is recommended.



2. Attach the magnetic holder to the mounting surface. Change mounting location if the hold is poor. An additional mounting that prevents a detaching sensor from getting into rotating parts is recommended.

5 Adapter plates

Adapter plates

Part number	Designation	Image
2129152	M5 adapter plate (also suitable for M4 screws)	
2129153	M8 adapter plate	
2125439	Magnetic holder ¹⁾	

1) Not tested by UL