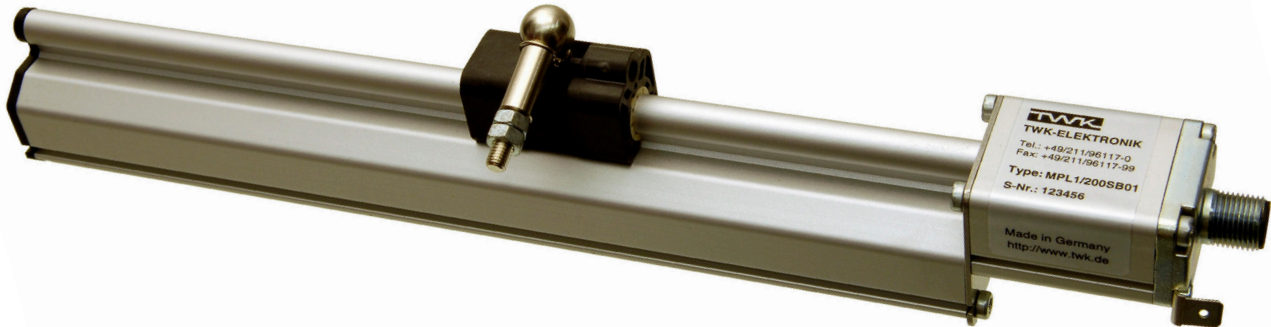


- Measuring strokes from 50 to 2500 mm (analog.) respectively 3000 mm (start/stop)
- Contactless, robust system
- Infinite resolution
- Unique reproducibility
- Measurement signals 4 ... 20 mA, 0 ... 10 V or start/stop signal
- Protection type IP 67
- Operating temperature range -40 °C ... +75 °C



Structure and operation

The displacement transducers operate according to the principle of run time measurement between two points of a magnetostrictive waveguide. One point is determined by a moveable position magnet, whose distance from the null point corresponds to the section to be measured. The run time of an emitted impulse is directly proportionate to this section. Conversion to an analogue measuring signal takes place in the downstream electronics.

The waveguide is housed in an extruded aluminium profile. The electronics is housed in a die-cast aluminium sensor head. Electrical connection is implemented via a circular connector.

The position magnet is located either in a slider, which is linked to the moving part of the machine via a ball joint, or it moves as a liftable position magnet, without wear, over the profile.

Standard measuring strokes:

(Other measuring strokes on request)

- ≤ 500 mm in 50 mm steps
- > 500 - ≤ 2500 mm in 50 mm steps
- > 2500 mm in 50 mm steps (only for output start/stop)

Standard designs

Output signal	Mean at
4 - 20 mA / 20 - 4 mA	12 mA
0 - 10 V / 10 - 0 V	5 V
Start / stop	

The direction of the measurement signal must be specified on ordering. Subsequent changes to the direction of the measurement signal and setting the starting and end points are not possible.

Technical data

- Operating voltage range V_S : 24 VDC (+20% / -15%) (protection against reverse polarity)
- Operating current I_S : 50 - 140 mA (depending on length and output)
- Linearity: < 0.02% (minimum 60 µm)
- Repeatability: < 0.001% (minimum 2.5 µm)

- Hysteresis: < 4 µm
- Measuring frequency: Analogue: < 3 kHz, digital: depending on evaluation electronics
- Temperature drift: < 40 ppm / °C
- Op. temperature range: - 40 °C to + 75 °C
- Shock test: 100 g to IEC Standard 68-2-27
- Vibration test: 15 g / 10 to 2000 Hz to IEC Standard 68-2-6
- Protection type: IP 67 (with proper installed connector)

■ Current output:

- Output signal: 4...20 mA / 20...4 mA
- Apparent ohmic resistance: 0 - 500 Ω

■ Voltage output:

- Output signal: 0...10 VDC / 10...0 VDC
- Permissible load: ≥ 5 KΩ

■ Start/stop output:

RS422 differential signal

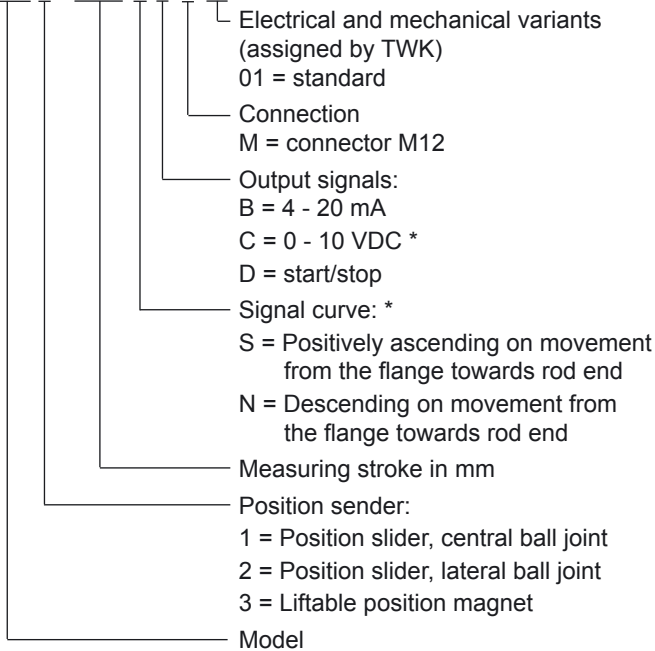
■ Mating connector:

- Housing: Metal (straight or angled 90°)
- Contacts: Socket, gold plated
- Cable diameter: 6 - 8 mm
- Wire connection: Screws
- Cable cross-section: max. 0.75 mm²

Purchase order codes

■ Displacement transducer

MPL 1 / 1000 S B M 01



* Output signal C always supplies 0-10 V and 10-0 V. Please specify signal curve „S“ on ordering. (Pin assignment, see below)

Scope of delivery:

Displacement sensor with position magnet or position slider and 2 mounting feet up to a measuring length of 1250 mm. 1 additional mounting foot every 500 mm.

Accessories: (Please order separately)

■ Position magnets

- PS01** Position slider, central ball joint
- PS02** Position slider, ball joint at side
- PR03** Liftable position magnet

■ Mounting connector

- Analogue: **STK5 GS 56** (straight)
STK5 WS 58 (angled 90°)
- Start / Stop: **STK8 GS 54** (straight)
STK8 WS 86 (angled 90°)

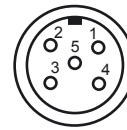
■ Mounting foot **MB-MPX**

■ Adapter cable

- M12 to M16 **KABEL-0,3-162**

Electrical connections

■ Analogue output

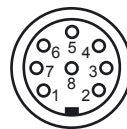


connection side of connector

pin	voltage / current
1	+ 24 VDC
2	signal
3	GND (PWR)
4	2. signal
5	GND (Signal)

Electrical connections

■ Start/stop output



connection side of connector

pin	start / stop	pin	start / stop
1	start +	5	n.c.
2	start -	6	n.c.
3	stop +	7	+ 24 DC
4	stop -	8	GND

Notes: On installation of the MAGNOSENS, careful shielding from magnetic and electromagnetic fields must be ensured.

The cable shield must be mounted on the connector and connected to ground at the evaluation electronics.

Wherever possible, use non-magnetisable material to fasten the liftable position magnet. If magnetisable material is used, the position magnet must be mounted via a non-magnetisable spacer washer with a minimum thickness of 5 mm using non-magnetisable bolts.

Attention!

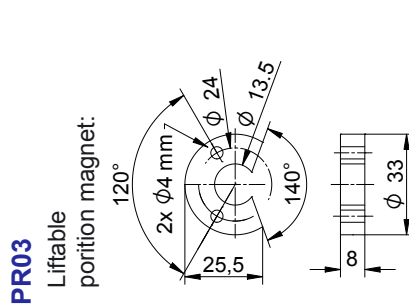
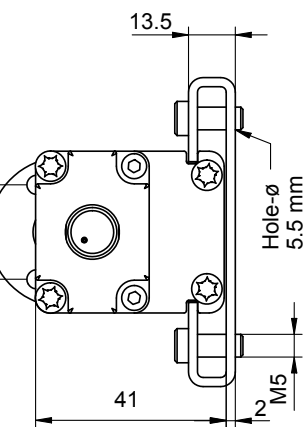
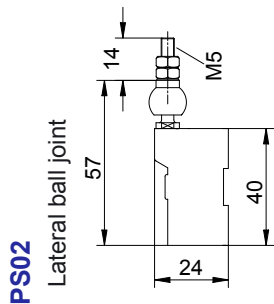
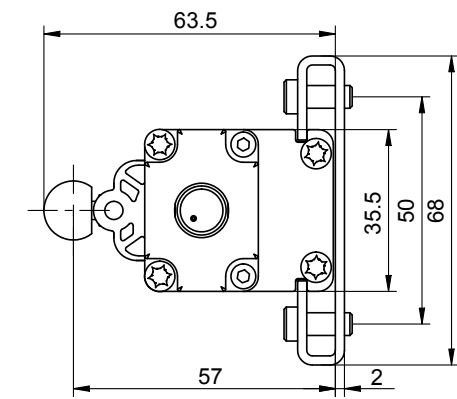
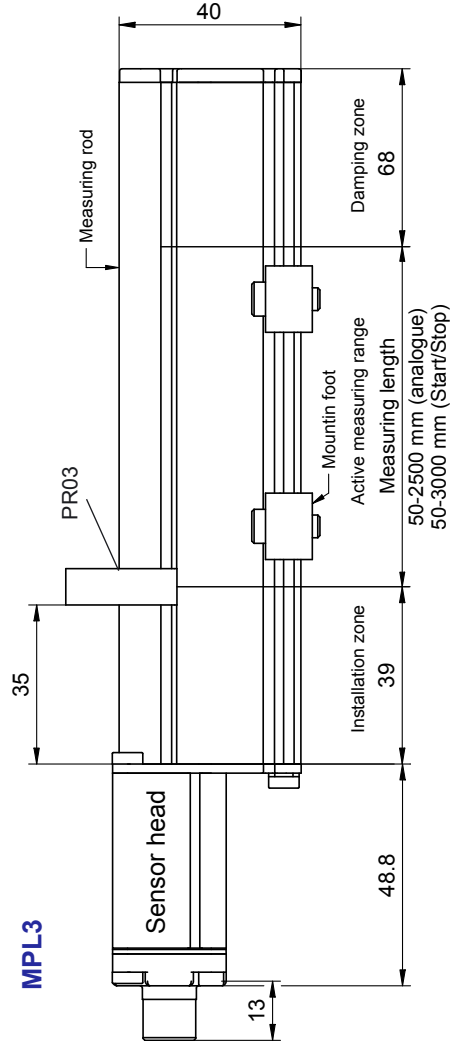
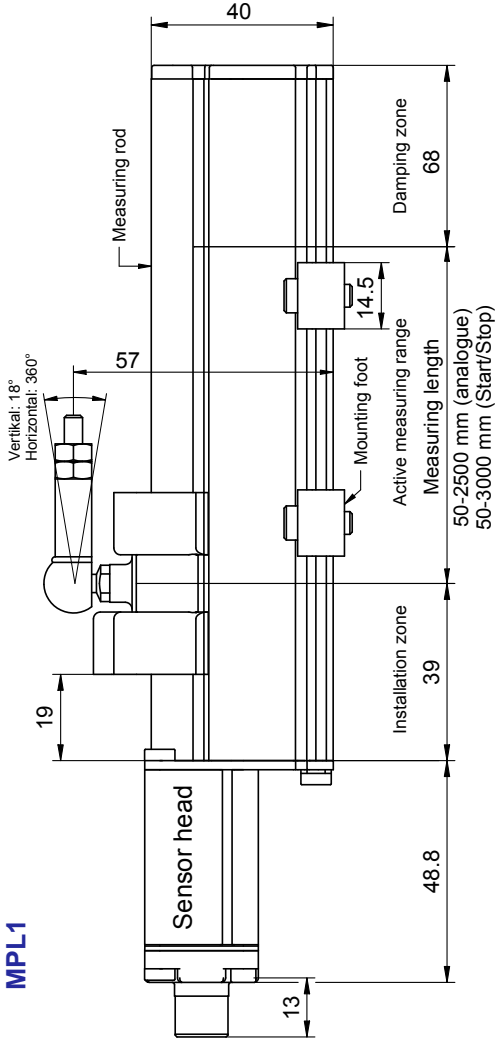
The EP sensor is now fixed isolated from machine ground. It is now necessary that the sensor housing is grounded with the flat pin terminal of the sensor head

Further documentation:

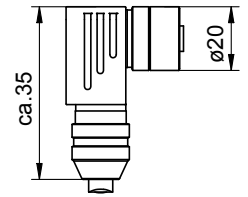
On www.twk.de:

- MWA 10318 installation instructions
- Available position magnets MXX 11469

Dimensions in mm



Mating connector (angled 90°)



Mating connector (straight)

