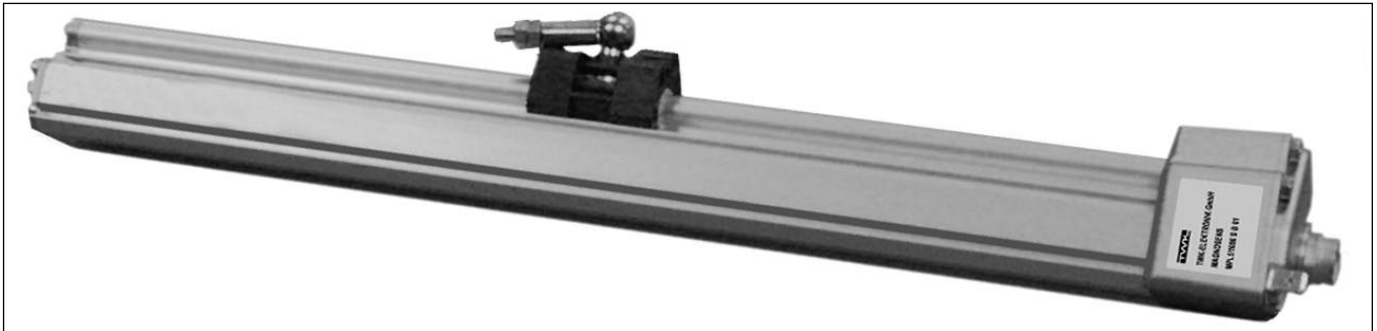


- Measuring strokes from 50 to 1500 mm
- Contactless, robust system
- Infinite resolution
- Unique reproducibility
- Measurement signals 4 ... 20 mA, 0 ... 10 V or start/stop signal
- Protection type IP 65
- Operating temperature range -40 °C ... +75 °C



### 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 die-cast aluminium sensor head contains the electronics in SMD technology. 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:

50 ... 1500 mm in 50 mm steps  
(Other measuring strokes on request)

### 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%)
- Operating current  $I_S$ : 50 - 140 mA (depending on length and output)
- Linearity: < 0.02% (minimum 60  $\mu$ m)
- Repeatability: < 0.001% (minimum 2.5  $\mu$ m)

- Hysteresis: < 4  $\mu$ m
- Measuring frequency: Analogue: >1.5 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: 10 g / 10 to 2000 Hz to IEC Standard 68-2-6
- Protection type: IP 65
- **Current output:**
  - Output signal: 4...20 mA / 20...4 mA
  - Apparent ohmic resistance: 0 - 500  $\Omega$
- **Voltage output:**
  - Output signal: 0...10 VDC / 10...0 VDC
  - Permissible load:  $\geq$  5 K $\Omega$
- **Start/stop output:** RS422 differential signal
- **Mating connector:**
  - Housing: Metal (straight or angled 90°)
  - Contacts: Socket, AG
  - Cable strain relief: Pg 7
  - Max. cable diameter: 6 mm

**Purchase order codes**

■ Displacement transducer

**MPL 1 / 1000 S B 01**

- Electrical and mechanical variants (assigned by TWK)  
01 = standard
- Output signals:  
B = 4 - 20 mA  
C = 0 - 10 VDC \*
- D = start/stop
- Signal curve: \*
- S = Positively ascending on movement from the flange towards rod end
- N = Descending on movement from the flange towards rod end
- Measuring stroke in mm
- Position sender:  
1 = Position slider, central ball joint
- 2 = Position slider, lateral ball joint
- 3 = Lifiable position magnet
- Model

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

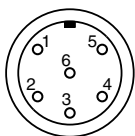
**Scope of delivery:**

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

**Accessories: (Please order separately)**

- Mating connector: **STK6GS42** straight  
**STK6WS43** angled 90°
- Mounting foot: **MB-MPX**

**Electrical connections**



Soldered connection side of connector

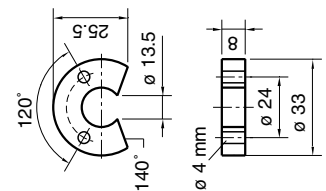
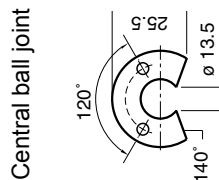
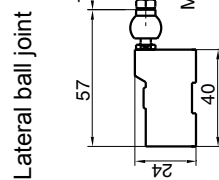
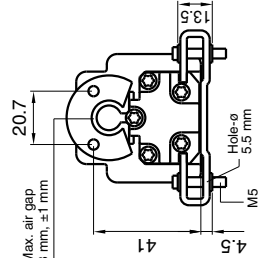
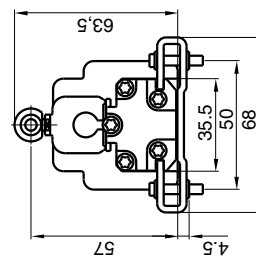
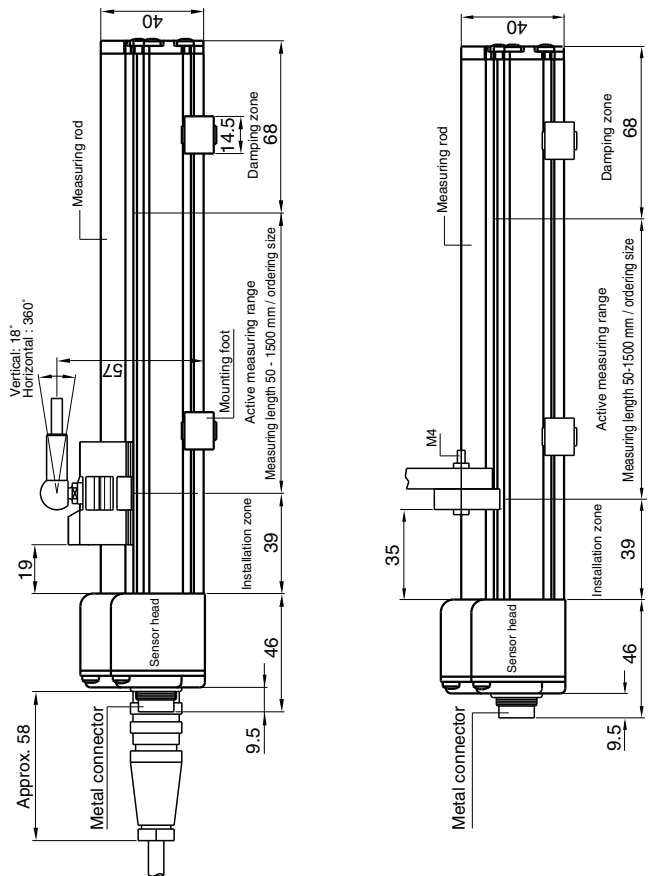
Pin	Wire	Voltage/current	Start/stop
1	Grey	4 - 20 mA 0 - 10 V	Stop -
2	Pink	Bridged with 6	Stop +
3	Yellow	20 - 4 mA 10 - 0 V	Start +
4	Green	Bridged with 6	Start -
5	Brown	+V <sub>S</sub> (+24 VDC)	+V <sub>S</sub> (+24 VDC)
6	White	-V <sub>S</sub> (0 VDC)	-V <sub>S</sub> (0 VDC)

**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 lifiable 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.

**Dimensions in mm**



Lifiable position magnet