



## Magnetic Cylinder Sensors Analog positioning sensors

MPS-032TSTP0



**Model Name** > [MPS-032TSTP0](#)  
**Part No.** > [1045666](#)



#### At a glance

- Magnetic position sensor for pneumatic and hydraulic cylinders with T-slot
- Output signal: analog, 4 - 20 mA current and 0 -10 V (in one sensor)
- Superior precision: 0.05 mm resolution, 0.1 mm repeatability, 0.3 mm linearity, 1 ms measurement rate
- Electric setting of zero point and end point via teach-in button (optional)
- Various lengths available from 32 - 256 mm
- Flexible sensor settings, monitoring, advanced diagnostics, and visualization thanks to IO-Link

#### Your benefits

- Maximum flexibility with several different measuring ranges from 32 to 256 mm
- Easy analog output setup: adjustable zero and end point can be taught via single button
- Drop-in T-slot mounting from above makes assembly easy
- Selectable installation direction to optimize cabling
- Efficient measurement of stroke due to minimal blind zones, increasing machine throughput
- Simple commissioning due to "in-range" indicator
- IO-Link provides easy data access from the PLC
- Quick and easy configuration



#### Features

|                              |                                                                                                                        |
|------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Output function:             | Analog                                                                                                                 |
| Electrical wiring:           | DC 4-wire                                                                                                              |
| Enclosure rating:            | IP 67                                                                                                                  |
| Cylinder types with adapter: | Roundbody cylinder<br>Dove-tail groove cylinder<br>SMC rail cylinder CDQ2 (C-Slot)<br>SMC rail cylinder ECDQ2 (C-Slot) |
| Teach-in:                    | 1                                                                                                                      |
| Analog output (voltage):     | 0 V ... 10 V                                                                                                           |
| Analog output (current):     | 4 mA ... 20 mA                                                                                                         |
| Housing length:              | 45 mm                                                                                                                  |
| Measuring range:             | 32 mm <sup>1)</sup>                                                                                                    |
| Cylinder type:               | T-slot                                                                                                                 |

<sup>1)</sup> ± 1 mm

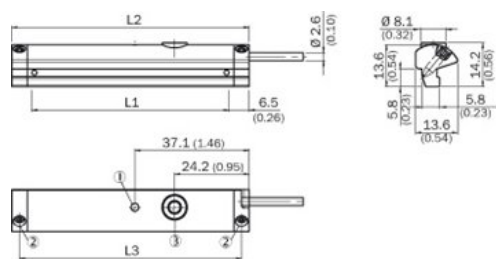
## Mechanics/electronics

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|                                   |                                                      |
|-----------------------------------|------------------------------------------------------|
| Connection type:                  | Cable with connector M8, 4-pin, 300 mm <sup>1)</sup> |
| Supply voltage:                   | 15 V DC ... 30 V DC                                  |
| EMC:                              | According to EN 60947-5-7 <sup>2)</sup>              |
| Cable material:                   | PUR                                                  |
| Conductor cross-section:          | 0.14 mm <sup>2</sup>                                 |
| Reverse polarity protection:      | ✓                                                    |
| Short-circuit protection:         | ✓                                                    |
| Housing material:                 | Plastic                                              |
| Housing cap material:             | PA, strengthened                                     |
| Sensing face material:            | Plastic                                              |
| Ambient operating temperature:    | -20 °C ... 70 °C                                     |
| Load resistance, max.:            | 500 Ω <sup>3)</sup>                                  |
| Min. load resistance:             | 2 kΩ <sup>4)</sup>                                   |
| Magnetic field sensitivity, min.: | 3 mT                                                 |
| Output indicator:                 | ✓                                                    |
| Linearity typ.:                   | 0.3 mm                                               |
| Protection class:                 | III                                                  |
| Resolution typ.:                  | 0.03 % FSR (max. $\geq 0.05$ mm) <sup>5)</sup>       |
| Repeat accuracy typ:              | 0.06 % FSR ( $\geq 0.1$ mm) <sup>6)</sup>            |
| Shock/vibration:                  | 30 g, 11 ms/10 ... 55 Hz, 1 mm                       |
| Sampling rate:                    | 1 ms                                                 |

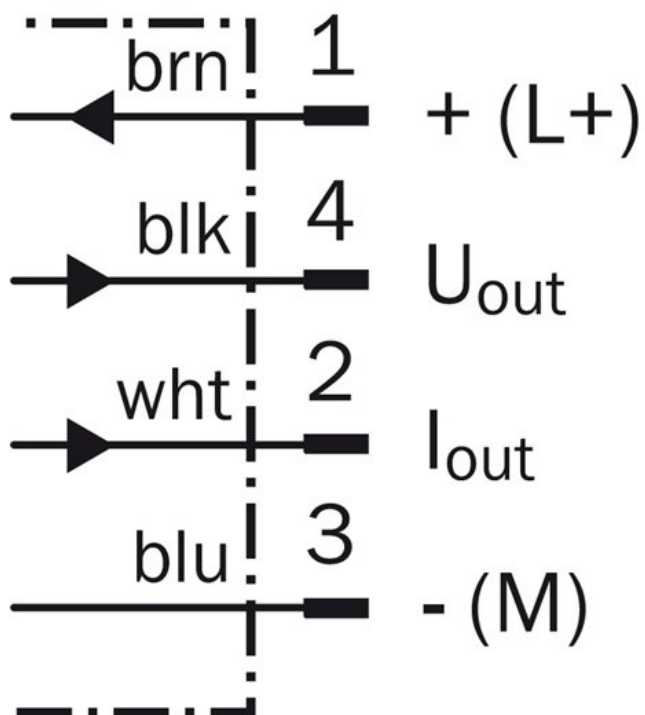
<sup>1)</sup> Do not bend below 0 °C   <sup>2)</sup> The analog measured value can deviate under transient conditions   <sup>3)</sup> Power output   <sup>4)</sup> Input current   <sup>5) 6)</sup> FSR: Full Scale Range; max. measuring range

- [1] Function signal indicator
- [2] Fixing screw
- [3] Teach-in button



|                | Total length<br>(L1) mm | Measuring range<br>(L2) mm | Distance<br>mounting screws<br>(L3) mm |
|----------------|-------------------------|----------------------------|----------------------------------------|
| <b>MPS-32</b>  | 45                      | 32                         | 40                                     |
| <b>MPS-64</b>  | 77                      | 64                         | 72                                     |
| <b>MPS-96</b>  | 109                     | 96                         | 104                                    |
| <b>MPS-128</b> | 141                     | 128                        | 136                                    |
| <b>MPS-160</b> | 173                     | 160                        | 168                                    |
| <b>MPS-192</b> | 205                     | 192                        | 200                                    |
| <b>MPS-224</b> | 237                     | 224                        | 232                                    |
| <b>MPS-256</b> | 269                     | 256                        | 264                                    |

### Connection diagram



## Connection type

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