



## Magnetic Cylinder Sensors Analog positioning sensors

MPA-899THTP0



**Model Name** > [MPA-899THTP0](#)  
**Part No.** > [1059476](#)



#### At a glance

- Measured lengths from 107 to 1007 mm in 36 mm steps
- Output signals 4 to 20 mA as well as 0 to 10 V in a single sensor
- Can be mounted on various cylinders thanks to its universal housing with adapters, e.g., cylinders with T-slot, round and tie rod cylinders
- Linearity of 0.5 mm at a sample rate of 1.15 ms
- Accuracy of 0.03 % as well as reproducibility of 0.06 %
- IP 67 enclosure rating
- Flexible sensor settings, monitoring, advanced diagnostics, and visualization thanks to IO-Link

#### Your benefits

- High flexibility through measuring ranges from 107 to 1007 mm
- Increased machine performance thanks to the sensor's minimal blind zone
- Saves time due to configurable start and end points via intelligent Teach Pad
- A rugged aluminum housing, the capacitive Teach Pad and the anti-kink cable guarantees a long operational lifetime of the sensor and reduces maintenance costs
- Time savings through simple commissioning and diagnostics thanks to a 4-color LED display
- Analog power, voltage signal and IO-Link in a single sensor reduces the range of variants and thereby lowers warehousing costs
- 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 65, IP 67                                     |
| Cylinder types with adapter: | Roundbody cylinder<br>T-slot<br>Tie rod cylinder |
| Teach-in:                    | 1                                                |
| Analog output (voltage):     | 0 V ... 10 V                                     |
| Analog output (current):     | 4 mA ... 20 mA                                   |
| Housing length:              | 901 mm                                           |
| Measuring range:             | 899 mm <sup>1)</sup>                             |
| IO-Link functions:           | Standard functions                               |

1)  
± 1 mm

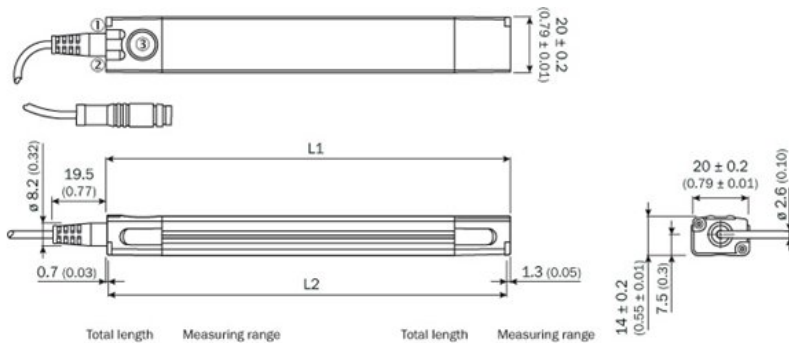
## Mechanics/electronics

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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:                 | Aluminium                                            |
| Housing cap material:             | PA, strengthened                                     |
| 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.: | 2 mT                                                 |
| Output indicator:                 | ✓                                                    |
| Linearity typ.:                   | 0.5 mm                                               |
| Protection class:                 | III                                                  |
| Resolution typ.:                  | 0.03 % FSR (max. ≥ 0.06 mm) <sup>5)</sup>            |
| Repeat accuracy typ.:             | 0.06 % FSR (≥ 0.1 mm) <sup>6)</sup>                  |
| Shock/vibration:                  | 30 g, 11 ms/10 Hz ... 55 Hz, 1 mm                    |
| IO-Link:                          | ✓                                                    |
| 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> Voltage output <sup>5) 6)</sup> FSR: Full Scale Range; max. measuring range

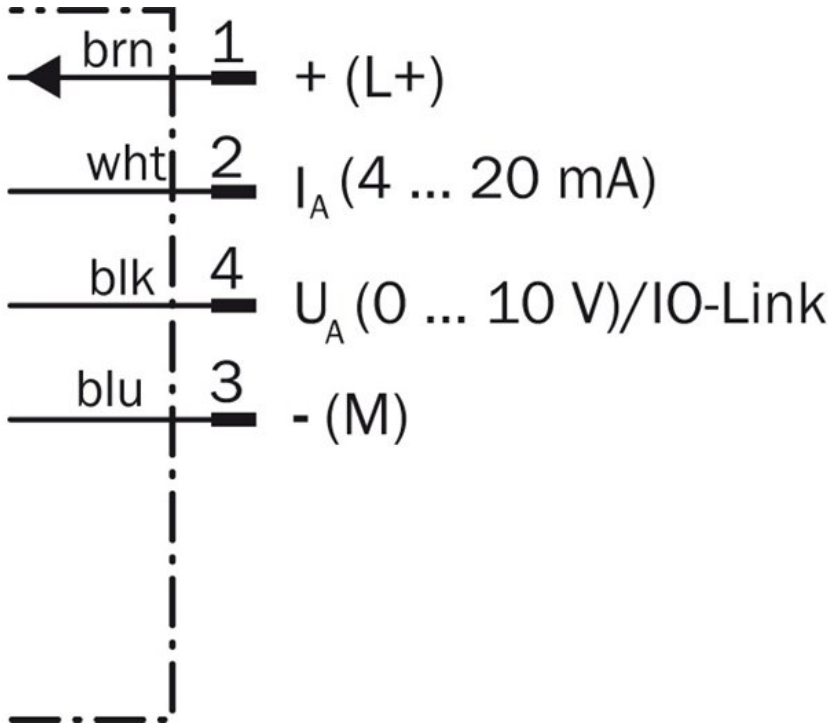
## Dimensional drawing



- [1] Function signal indicator 1
- [2] Function signal indicator 2
- [3] Teach-Pad

|                | Total length<br>(L1) mm | Measuring range<br>(L2) mm |                 | Total length<br>(L1) mm | Measuring range<br>(L2) mm |
|----------------|-------------------------|----------------------------|-----------------|-------------------------|----------------------------|
| <b>MPA-107</b> | 109                     | 107                        | <b>MPA-575</b>  | 577                     | 575                        |
| <b>MPA-143</b> | 145                     | 143                        | <b>MPA-611</b>  | 613                     | 611                        |
| <b>MPA-179</b> | 181                     | 179                        | <b>MPA-647</b>  | 649                     | 647                        |
| <b>MPA-215</b> | 217                     | 215                        | <b>MPA-683</b>  | 685                     | 683                        |
| <b>MPA-251</b> | 253                     | 251                        | <b>MPA-719</b>  | 721                     | 719                        |
| <b>MPA-287</b> | 289                     | 287                        | <b>MPA-755</b>  | 757                     | 755                        |
| <b>MPA-323</b> | 325                     | 323                        | <b>MPA-791</b>  | 793                     | 791                        |
| <b>MPA-359</b> | 361                     | 359                        | <b>MPA-827</b>  | 829                     | 827                        |
| <b>MPA-395</b> | 397                     | 395                        | <b>MPA-863</b>  | 865                     | 863                        |
| <b>MPA-431</b> | 433                     | 431                        | <b>MPA-899</b>  | 901                     | 899                        |
| <b>MPA-467</b> | 469                     | 467                        | <b>MPA-935</b>  | 937                     | 935                        |
| <b>MPA-503</b> | 505                     | 503                        | <b>MPA-971</b>  | 973                     | 971                        |
| <b>MPA-539</b> | 541                     | 539                        | <b>MPA-1007</b> | 1,009                   | 1,007                      |

## Connection diagram



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