



## Magnetic Cylinder Sensors Analog positioning sensors

MPA-719THTP0



**Model Name** > [MPA-719THTP0](#)  
**Part No.** > [1059471](#)



**At a glance**

- Analog positioning sensor that can be mounted with adapters on various cylinders thanks to its universal housing, e.g., cylinders with T-slot, round and tie rod cylinders
- Measuring lengths from 107 mm to 1,007 mm in 36 mm steps
- Output signals 4 mA to 20 mA as well as 0 V to 10 V in a single sensor
- Linearity of 0.5 mm at a sample rate of 1.15 ms and an resolution of 0.06 mm
- Electric setting of zero point and end point via teach-in button
- IP 67 enclosure rating

**Your benefits**

- Maximum flexibility through measuring ranges from 107 mm to 1,007 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
- Flexible sensor settings, monitoring, advanced diagnostics, and visualization thanks to IO-Link save time and money



**Features**

|                              |  |
|------------------------------|--|
| Output function:             | Analog, IO-Link                                  |
| Electrical wiring:           | DC 4-wire  |
| Teach-in:                    | 1  |
| Cylinder types with adapter: | Roundbody cylinder<br>T-slot<br>Tie rod cylinder |
| Measurement range:           | 719 mm <sup>1)</sup>                             |
| Housing length:              | 721 mm   |
| Analog output (voltage):     | 0 V ... 10 V                                     |
| Analog output (current):     | 4 mA ... 20 mA                                   |
| Enclosure rating:            | IP 65<br>IP 67 <sup>2)</sup><br>IP 68            |
| IO-Link functions:           | Standard functions                               |

1)  $\pm 1$  mm 2) According to EN 60529

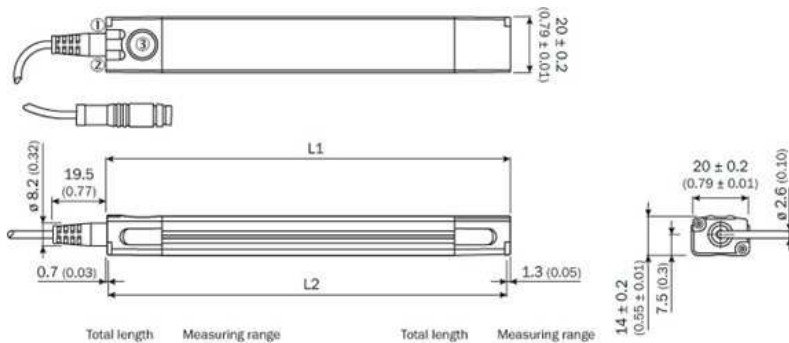
## Mechanics/electronics

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|                                   |   |
|-----------------------------------|---|
| Connection type:                  | Cable with connector M8, 4-pin, 0.3 m <sup>1)</sup> |
| Supply voltage:                   | 15 V DC ... 30 V DC                                 |
| EMC:                              | According to EN 60947-5-2 <sup>2)</sup>             |
| Load resistance, max.:            | 500 $\Omega$ <sup>3)</sup>                          |
| Min. load resistance:             | 2 k $\Omega$ <sup>4)</sup>                          |
| Cable material:                   | PUR   |
| Conductor cross-section:          | 0.14 mm <sup>2</sup>                                |
| Reverse polarity protection:      | ✓   |
| Short-circuit protection:         | ✓   |
| Housing cap material:             | PA, strengthened                                    |
| IO-Link:                          | ✓   |
| Output indicator:                 | ✓   |
| Linearity typ.:                   | 0.5 mm  |
| Resolution typ.:                  | 0.03 % FSR (max. $\geq 0.06$ mm) <sup>5)</sup>      |
| Repeat accuracy typ.:             | 0.06 % FSR ( $\geq 0.1$ mm) <sup>6)</sup>           |
| Shock and vibration resistance:   | 30 g, 11 ms/10 Hz ... 55 Hz, 1 mm                   |
| Ambient operating temperature:    | -20 °C ... +70 °C                                   |
| Protection class:                 | III   |
| Magnetic field sensitivity, typ.: | 2 mT  |
| Sampling rate typ.:               | 1.15 ms   |
| Housing material:                 | Aluminum  |

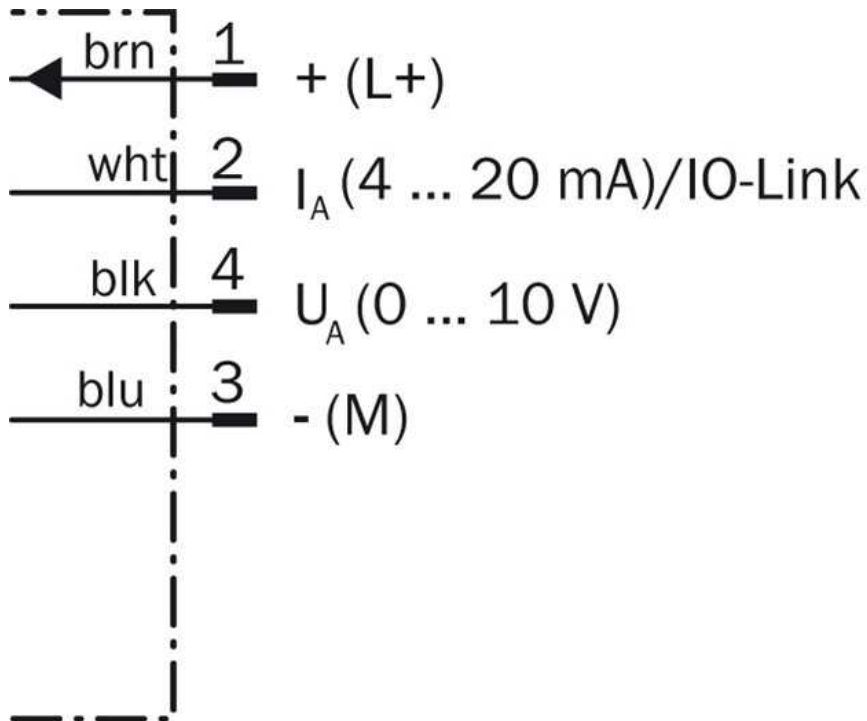
1) Do not bend below 0 °C 2) The analog measured value can deviate under transient conditions 3) Power output 4) Voltage output 5) 6) FSR: Full Scale Range; max. measuring range

## Dimensional drawing



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

## Connection diagram



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