



Magnetic Cylinder Sensors Analog positioning sensors

MPS-160TSTU0



Model Name > **MPS-160TSTU0**
Part No. > **1050740**



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 Dove-tail groove cylinder SMC rail cylinder CDQ2 (C-Slot) 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:	173 mm
Measuring range:	160 mm ¹⁾
Cylinder type:	T-slot

¹⁾ ± 1 mm

Mechanics/electronics

Connection type:	Cable, 2 m ¹⁾
Supply voltage:	15 V DC ... 30 V DC
EMC:	According to EN 60947-5-7 ²⁾
Cable material:	PUR
Conductor cross-section:	0.14 mm ²
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 ³⁾
Min. load resistance:	2 kΩ ⁴⁾
Magnetic field sensitivity, min.:	3 mT
Output indicator:	✓
Linearity typ.:	0.3 mm
Protection class:	III
Resolution typ.:	0.03 % FSR (max. ≥ 0.05 mm) ⁵⁾
Repeat accuracy typ.:	0.06 % FSR (≥ 0.1 mm) ⁶⁾
Shock/vibration:	30 g, 11 ms/10 ... 55 Hz, 1 mm
Sampling rate:	1 ms

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

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

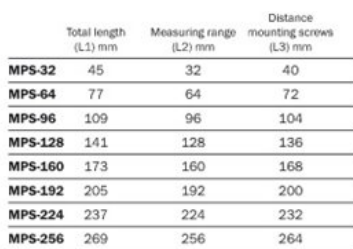
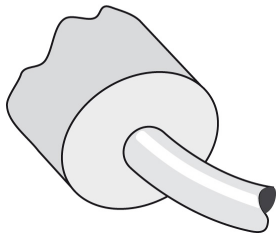


Diagram illustrating a four-layer neural network structure with color-coded layers:

- Layer 1 (brown): $+ (L+)$
- Layer 4 (black): U_{out}
- Layer 2 (white): I_{out}
- Layer 3 (blue): $- (M)$

Connection type



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