



Magnetic Cylinder Sensors Analog positioning sensors

MPS-160TSNPO



Model Name > [MPS-160TSNP0](#)
Part No. > [1053839](#)



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
- Various lengths available from 32 - 256 mm

Your benefits

- Maximum flexibility with several different measuring ranges from 32 to 256 mm
- 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
- Output signal: analog, 4 - 20 mA current and 0 -10 V (in one sensor) reduces inventory cost by part number reduction



Features

Output function:	Analog
Electrical wiring:	DC 4-wire
Teach-in:	0
Cylinder type:	T-slot
Cylinder types with adapter:	Roundbody cylinder SMC rail cylinder CDQ2 SMC rail cylinder ECDQ2 Cylinders with dovetail slots
Measurement range:	160 mm ¹⁾
Housing length:	173 mm
Analog output (voltage):	0 V ... 10 V
Analog output (current):	4 mA ... 20 mA
Enclosure rating:	IP 67 ²⁾

¹⁾ ± 1 mm ²⁾ According to EN 60529

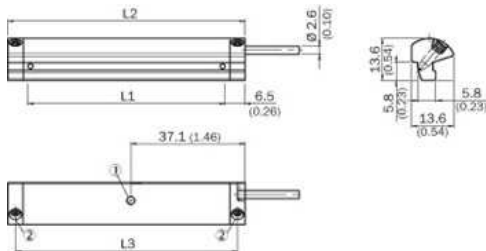
Mechanics/electronics

Connection type:	Cable with connector M8, 4-pin, 0.3 m ¹⁾
Supply voltage:	15 V DC ... 30 V DC
EMC:	According to EN 60947-5-2 ²⁾

Load resistance, max.:	500 Ω ³⁾
Min. load resistance:	2 kΩ ⁴⁾
Cable material:	PUR
Conductor cross-section:	0.14 mm ²
Reverse polarity protection:	✓
Short-circuit protection:	✓
Housing material:	Plastic
Output indicator:	✓
Linearity typ.:	0.3 mm
Resolution typ.:	0.03 % FSR (max. ≥ 0.05 mm) ⁵⁾
Repeat accuracy typ.:	0.06 % FSR (≥ 0.1 mm) ⁶⁾
Shock and vibration resistance:	30 g, 11 ms/10 ... 55 Hz, 1 mm
Ambient operating temperature:	-20 °C ... 70 °C
Protection class:	III
Magnetic field sensitivity, typ.:	3 mT
Sampling rate typ.:	1 ms

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

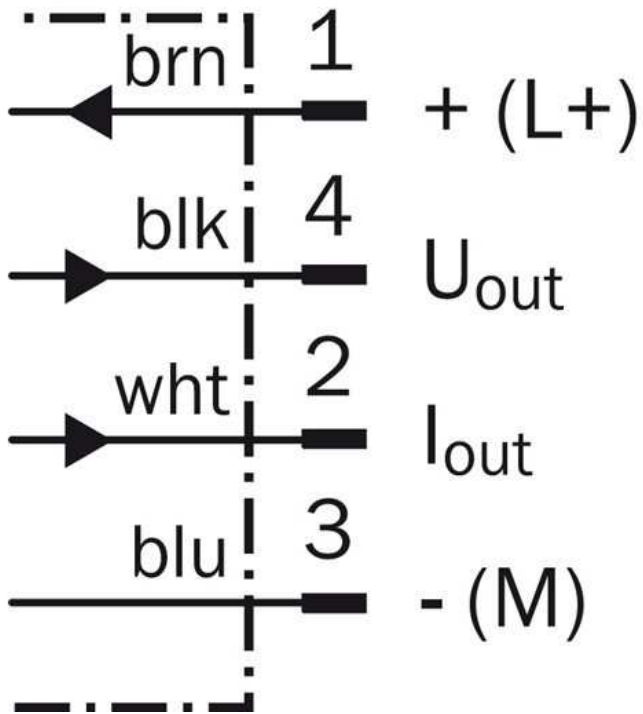
Dimensional drawing



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

|1| Function signal indicator
|2| Fixing screw

Connection diagram



Connection type



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