

MPS-160TSTP0

MPS-T

CYLINDER SENSORS





Ordering information

Туре	part no.
MPS-160TSTP0	1050685

Other models and accessories → www.sick.com/MPS-T



Detailed technical data

Features

Cylinder type	T-slot
Cylinder types with adapter	Round body cylinder Profile cylinders and tie-rod cylinders Dovetail groove cylinder
Measuring range	160 mm ¹⁾
Housing length	173 mm
Output function	Analog
Electrical wiring	DC 4-wire
Analog output (voltage)	0 V 10 V ²⁾
Analog output (current)	4 mA 20 mA ²⁾
Enclosure rating	IP67 ³⁾
Adjustment	
Teach-in control panel	Teaching in analog outputs Resetting the measuring range to factory settings

 $^{^{1)}}$ \pm 1 mm.

Mechanics/electronics

Supply voltage	15 V DC 30 V DC
Power consumption	22 mA, without load
Max. load resistance	≤ 500 Ω Power Output, at 24 V
Min. load resistance	$\geq 2 \text{ k}\Omega^{1)}$

 $^{^{1)}}$ Voltage output.

 $^{^{2)}\,\}mbox{The sensor only activates the wired output.}$

³⁾ According to EN 60529.

 $^{^{2)}}$ FSR: Full Scale Range; max. measuring range.

 $^{^{3)}}$ At 25 $^{\circ}$ C, linearity error (maximum deviation) depending on response curve and minimal deviation function.

 $^{^{\}rm 4)}$ At 25 $^{\rm \circ}$ C, repeatability magnet movement in one direction.

 $^{^{5)}}$ Only in standard mode, not in IO-Link mode.

 $^{^{6)}}$ The analog measured value can deviate for up to 100 ms under transient conditions.

Protection class	III
Time delay before availability	1.5 s
Required magnetic field sensitivity, typ.	4 mT 30 mT
Resolution, typ.	0.03 % FSR (max. ≥ 0.05 mm) ²⁾
Linearity error, typ.	0.3 mm ³⁾
Repeat accuracy, typ.	0.06 % FSR (≥ 0.1 mm) ⁴⁾
Sampling rate, typ.	1 ms ⁵⁾
Reverse polarity protection	Yes
Short-circuit protection	Yes
Status indicator LED	Yes
Teach-in	Yes
Ambient operating temperature	-20 °C +70 °C
Shock and vibration resistance	30 g, 11 ms / 10 55 Hz, 1 mm
EMC	According to EN 60947-5-7 ⁶⁾
Connection type	Cable with M8 male connector, 4-pin, 0.3 m
Connection type Detail	
Deep-freeze property	Do not bend below 0 °C
Conductor cross section	0.08 mm ²
Cable diameter	Ø 2.6 mm
Bending radius	With fixed installation > 5 x cable diameter
	For flexible use > 10 x cable diameter
Cable outlet	Axial
Material	
Housing	Plastic
Cable	PUR
UL File No.	NRKH.E181493 & NRKH7.E181493

 $^{^{1)}}$ Voltage output.

Safety-related parameters

MTTF _D	235 years
DC _{avg}	0 %
T _M (mission time)	20 years

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓

²⁾ FSR: Full Scale Range; max. measuring range.

 $^{^{3)}}$ At 25 $^{\circ}$ C, linearity error (maximum deviation) depending on response curve and minimal deviation function.

 $^{^{4)}}$ At 25 $^{\circ}$ C, repeatability magnet movement in one direction.

⁵⁾ Only in standard mode, not in IO-Link mode.

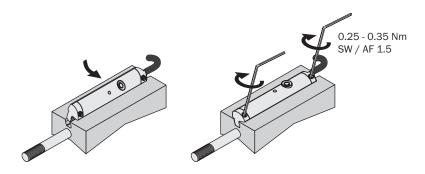
⁶⁾ The analog measured value can deviate for up to 100 ms under transient conditions.

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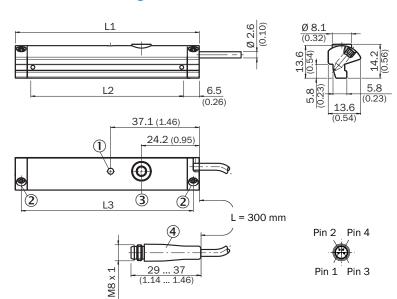
cULus certificate	✓		
Classifications			
ECLASS 5.0	27270104		
ECLASS 5.1.4	27270104		
ECLASS 6.0	27270104		
ECLASS 6.2	27270104		
ECLASS 7.0	27270104		
ECLASS 8.0	27270104		
ECLASS 8.1	27270104		
ECLASS 9.0	27270104		
ECLASS 10.0	27270104		
ECLASS 11.0	27270104		
ECLASS 12.0	27274301		
ETIM 5.0	EC002544		
ETIM 6.0	EC002544		
ETIM 7.0	EC002544		
ETIM 8.0	EC002544		
UNSPSC 16.0901	39122230		

Installation note



Connection diagram Cd-034

Dimensional drawing Cable with connector M8, Teach-in



	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

Dimensions in mm (inch)

- ① function indicator
- ② Fixing screw SW 1.5
- ③ Teach-in button
- ④ Connection

Recommended accessories

Other models and accessories → www.sick.com/MPS-T

	Brief description	Туре	part no.	
Mounting systems				
100	 Description: Mounting bracket for mounting on SMC rails ECDQ2 (T-slot) Material: Aluminum Details: Aluminum Items supplied: Without mounting hardware 	BEF-KHZ-TT1	2046439	
	 Description: Mounting bracket for mounting on SMC rails CDQ2 (T-slot) Material: Aluminum Details: Aluminum Items supplied: Without mounting hardware 	BEF-KHZ-TT2	2046440	
	 Description: Mounting bracket for cylinder with dovetail slot Material: Aluminum Details: Aluminum Items supplied: Without mounting hardware 	BEF-KHZ-ST1	2022703	
0	Description: Mounting bracket on round body cylinder with piston diameter of 16 mm, ambient temperature min 0 °C max 50 °C Dimensions (W x H x L): 26.6 m Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: T-slot	BEF-KHZ-RT-16	2077680	
	Description: Mounting bracket on round body cylinder with piston diameter of 8 mm 130 mm, ambient temperature min –30 °C max 80 °C Material: Stainless steel, Zinc cast Details: Stainless steel, Zinc cast Packing unit: 1 piece Suitable for: T-slot	BEF-KHZ-RT1-130	2077684	
0	Description: Mounting bracket on round body cylinder with piston diameter of 12 mm, ambient temperature min 0 °C max 50 °C Dimensions (W x H x L): 22.4 m Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: T-slot	BEF-KHZ-RT-12	2077681	
TIM	Description: Mounting bracket on round body cylinder with piston diameter of 8 mm 25 mm, ambient temperature min -30 °C max 80 °C Material: Stainless steel, Zinc cast Details: Stainless steel, Zinc cast Packing unit: 1 piece Suitable for: T-slot	BEF-KHZ-RT1-25	2077682	
	Description: Mounting bracket on round body cylinder with piston diameter of 8 mm 63 mm, ambient temperature min -30 °C max 80 °C Material: Stainless steel, Zinc cast Details: Stainless steel, Zinc cast Packing unit: 1 piece Suitable for: T-slot	BEF-KHZ-RT1-63	2077683	
0	Description: Mounting bracket on round body cylinder with piston diameter of 20 mm, ambient temperature min 0 °C max 50 °C Dimensions (W x H x L): 30.6 m Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: T-slot	BEF-KHZ-RT-20	2077679	
0	Description: Mounting bracket on round body cylinder with piston diameter of 25 mm, ambient temperature min 0 °C max 50 °C Dimensions (W x H x L): 35.7 m Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece	BEF-KHZ-RT-25	2077678	

	Brief description	Туре	part no.
	Suitable for: T-slot		
0	Description: Mounting bracket on round body cylinder with piston diameter of 32 mm, ambient temperature min 0 °C max 50 °C Dimensions (W x H x L): 42.9 m Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: T-slot	BEF-KHZ-RT-32	2077677
0	 Description: Mounting bracket on round body cylinder with piston diameter of 40 mm, ambient temperature min 0 °C max 50 °C Dimensions (W x H x L): 50.9 m Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: T-slot 	BEF-KHZ-RT-40	2077676
0	Description: Mounting bracket on round body cylinder with piston diameter of 50 mm, ambient temperature min 0 °C max 50 °C Dimensions (W x H x L): 61.8 m Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: T-slot	BEF-KHZ-RT-50	2077675
O	Description: Mounting bracket on round body cylinder with piston diameter of 63 mm, ambient temperature min 0 °C max 50 °C Dimensions (W x H x L): 73.9 m Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: T-slot	BEF-KHZ-RT-63	2077674
100	 Description: Mounting bracket for integrated profile cylinder/tie-rod cylinder Material: Zinc diecast Details: Zinc diecast Items supplied: Mounting hardware included 	BEF-KHZ-PT1	2022702
20	 Description: Label Holder, 2.5 mm to 3.5 mm, 10 pcs. Material: Plastic Details: TPU Packing unit: 10 pieces 	LABEL HOLDER	2086019
1	Description: Cable clips T-slot, 10 pcs./bag	CABLE CLIPS	2059322

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	Brief description	Туре	part no.		
connectors an	connectors and cables				
	 Connection type head A: Female connector, M8, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: 0.14 mm² 0.5 mm² 	DOS-0804-G	6009974		
	 Connection type head A: Male connector, M8, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: 0.14 mm² 0.5 mm² 	STE-0804-G	6037323		
	 Connection type head A: Female connector, M8, 4-pin, angled, A-coded Description: Unshielded Connection systems: Solder connection Permitted cross-section: ≤ 0.25 mm² 	DOS-0804-W	6009975		
	 Connection type head A: Female connector, M8, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF8U14- C60UA3XLEAX	2145825		
	 Connection type head A: Female connector, M8, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF8U14-010UA3XLEAX	2145826		

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