



MPA-215THTU0

MPA

POSITION SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
MPA-215THTU0	1059449

Other models and accessories → www.sick.com/MPA



Detailed technical data

Features

Cylinder type	Universal
Cylinder types with adapter	Round body cylinder Tie rod cylinder T-slot cylinders Festo cylinders DSBC SMC cylinders CP96
Measuring range	215 mm ¹⁾
Housing length	217 mm
Output function	Analog, IO-Link
Electrical wiring	DC 4-wire
Analog output (voltage)	0 V ... 10 V
Analog output (current)	4 mA ... 20 mA ²⁾
Enclosure rating	IP65 ³⁾ IP67 IP68
Adjustment	
Teach-in control panel	Teaching in the measuring range Selecting the current/voltage output or IO-Link Resetting the measuring range to factory settings
IO-Link	Teaching in the measuring range Resetting the measuring range
IO-Link functions	Standard functions

¹⁾ ± 1 mm.

²⁾ Default setting: Current output active.

³⁾ According to EN 60529.

Mechanics/electronics

Supply voltage	15 V DC ... 30 V DC
Power consumption	35 mA, without load
Max. load resistance	≤ 500 Ω Power Output, at 24 V
Min. load resistance	≥ 2 kΩ ¹⁾
Protection class	III
Required magnetic field sensitivity, typ.	2 mT ... 15 mT
Resolution, typ.	0.03 % FSR (max. ≥ 0.06 mm) ^{2) 3)}
Linearity error, typ.	0.5 mm ⁴⁾
Repeat accuracy, typ.	0.06 % FSR (≥ 0.1 mm) ⁵⁾
Sampling rate, typ.	1.15 ms ⁶⁾
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 Hz ... 55 Hz, 1 mm
EMC	According to EN 60947-5-2 ⁷⁾
Connection type	Cable, 4-wire, stripped, 2 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	Metal, Aluminum Plastic
Cable	PUR
UL File No.	NRKH.E181493 & NRKH7.E181493

¹⁾ Voltage output.

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

³⁾ When using IO-Link, the resolution is 0.25 mm.

⁴⁾ At 25 °C, linearity error (maximum deviation) depending on response curve and minimal deviation function.

⁵⁾ At 25 °C, repeatability magnet movement in one direction.

⁶⁾ Only in standard mode, not in IO-Link mode.

⁷⁾ The analog measured value can deviate under transient conditions.

Safety-related parameters

MTTF_D	194 years
DC_{avg}	0 %
T_M (mission time)	20 years

Communication interface

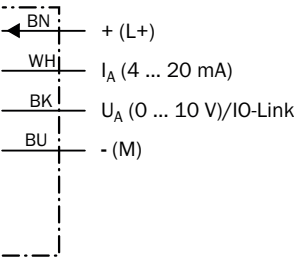
Communication interface	IO-Link V1.0.1
Communication Interface detail	COM2
Cycle time	2.3 ms
Process data length	16 Bit
Process data structure	Bit 0 ... 3 = reserved Bit 4 ... 5 = position (after decimal point) Bit 6 ... 15 = position (before decimal point)

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

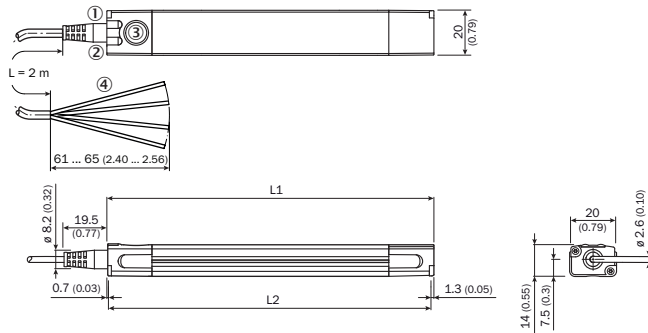
Connection diagram

Cd-354



Dimensional drawing (Dimensions in mm (inch))

Cable



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

- ① Function signal indicator 1
- ② Function signal indicator 2
- ③ Teach-Pad
- ④ Connection

Recommended accessories

Other models and accessories → www.sick.com/MPA

	Brief description	Type	Part no.
Mounting brackets and plates			
	Description: Bracket for low mounting Material: Stainless steel, brass Details: Stainless steel V2A (bracket/mounting screw), Brass (fixing screw) Usable for: MPA-107 mm ... 251 mm (sensor measuring range), 2 (recommended number of brackets), MPA-287 mm ... 431 mm (measuring range sensor), 3 (recommended number mounting brackets), MPA-467 mm ... 647 mm (measuring range sensor), 4 (recommended number mounting brackets), MPA-683 mm ... 791 mm (measuring range sensor), 5 (recommended number mounting brackets), MPA-827 mm ... 1007 mm (measuring range sensor), 6 (recommended number mounting brackets)	BEF-WNLO1MPA	2065973
	Description: Bracket for lateral mounting Material: Stainless steel, brass Details: Stainless steel V2A (bracket/mounting screw), Brass (fixing screw) Usable for: MPA-107 mm ... 251 mm (sensor measuring range), 2 (recommended number of brackets), MPA-287 mm ... 431 mm (measuring range sensor), 3 (recommended number mounting brackets), MPA-467 mm ... 647 mm (measuring range sensor), 4 (recommended number mounting brackets), MPA-683 mm ... 791 mm (measuring range sensor), 5 (recommended number mounting brackets), MPA-827 mm ... 1007 mm (measuring range sensor), 6 (recommended number mounting brackets)	BEF-WNZO1MPA	2065577

	Brief description	Type	Part no.
Terminal and alignment brackets			
	• Description: Sensor adapter DSBC-32 • Dimensions (W x H x L): 10 mm x 16.9 mm x 43.4 mm • Material: Stainless steel • Details: Stainless steel V2A • Usable for: MPA-107 mm ... 251 mm (sensor measuring range), 2 (recommended number of brackets), MPA-287 mm ... 431 mm (measuring range sensor), 3 (recommended number mounting brackets), MPA-467 mm ... 647 mm (measuring range sensor), 4 (recommended number mounting brackets), MPA-683 mm ... 791 mm (measuring range sensor), 5 (recommended number mounting brackets), MPA-827 mm ... 1007 mm (measuring range sensor), 6 (recommended number mounting brackets)	BEF-KHZPF032MPA	2086744
	• Description: Sensor adapter DSBC-40 • Dimensions (W x H x L): 10 mm x 16.9 mm x 48.9 mm • Material: Stainless steel • Details: Stainless steel V2A • Usable for: MPA-107 mm ... 251 mm (sensor measuring range), 2 (recommended number of brackets), MPA-287 mm ... 431 mm (measuring range sensor), 3 (recommended number mounting brackets), MPA-467 mm ... 647 mm (measuring range sensor), 4 (recommended number mounting brackets), MPA-683 mm ... 791 mm (measuring range sensor), 5 (recommended number mounting brackets), MPA-827 mm ... 1007 mm (measuring range sensor), 6 (recommended number mounting brackets)	BEF-KHZPF040MPA	2086745
	• Description: Sensor adapter DSBC-50 • Dimensions (W x H x L): 10 mm x 16.9 mm x 51.7 mm • Material: Stainless steel • Details: Stainless steel V2A • Usable for: MPA-107 mm ... 251 mm (sensor measuring range), 2 (recommended number of brackets), MPA-287 mm ... 431 mm (measuring range sensor), 3 (recommended number mounting brackets), MPA-467 mm ... 647 mm (measuring range sensor), 4 (recommended number mounting brackets), MPA-683 mm ... 791 mm (measuring range sensor), 5 (recommended number mounting brackets), MPA-827 mm ... 1007 mm (measuring range sensor), 6 (recommended number mounting brackets)	BEF-KHZPF050MPA	2086746
	• Description: Sensor adapter DSBC-63 • Dimensions (W x H x L): 10 mm x 16.9 mm x 53.1 mm • Material: Stainless steel • Details: Stainless steel V2A • Usable for: MPA-107 mm ... 251 mm (sensor measuring range), 2 (recommended number of brackets), MPA-287 mm ... 431 mm (measuring range sensor), 3 (recommended number mounting brackets), MPA-467 mm ... 647 mm (measuring range sensor), 4 (recommended number mounting brackets), MPA-683 mm ... 791 mm (measuring range sensor), 5 (recommended number mounting brackets), MPA-827 mm ... 1007 mm (measuring range sensor), 6 (recommended number mounting brackets)	BEF-KHZPF063MPA	2086747
	• Description: Sensor adapter DSBC-80 • Dimensions (W x H x L): 10 mm x 16.9 mm x 58.4 mm • Material: Stainless steel • Details: Stainless steel V2A • Usable for: MPA-107 mm ... 251 mm (sensor measuring range), 2 (recommended number of brackets), MPA-287 mm ... 431 mm (measuring range sensor), 3 (recommended number mounting brackets), MPA-467 mm ... 647 mm (measuring range sensor), 4 (recommended number mounting brackets), MPA-683 mm ... 791 mm (measuring range sensor), 5 (recommended number mounting brackets), MPA-827 mm ... 1007 mm (measuring range sensor), 6 (recommended number mounting brackets)	BEF-KHZPF080MPA	2086748
	• Description: Sensor adapter DSBC-100 • Dimensions (W x H x L): 10 mm x 17 mm x 59.8 mm • Material: Stainless steel • Details: Stainless steel V2A • Usable for: MPA-107 mm ... 251 mm (sensor measuring range), 2 (recommended number of brackets), MPA-287 mm ... 431 mm (measuring range sensor), 3 (recommended number mounting brackets), MPA-467 mm ... 647 mm (measuring range sensor), 4 (recommended number mounting brackets), MPA-683 mm ... 791 mm (measuring range sensor), 5 (recommended number mounting brackets), MPA-827 mm ... 1007 mm (measuring range sensor), 6 (recommended number mounting brackets)	BEF-KHZPF100MPA	2086749

	Brief description	Type	Part no.
	Description: Sensor adapter DSBC-125 Dimensions (W x H x L): 10 mm x 22.5 mm x 63.7 mm Material: Stainless steel Details: Stainless steel V2A Usable for: MPA-107 mm ... 251 mm (sensor measuring range), 2 (recommended number of brackets), MPA-287 mm ... 431 mm (measuring range sensor), 3 (recommended number mounting brackets), MPA-467 mm ... 647 mm (measuring range sensor), 4 (recommended number mounting brackets), MPA-683 mm ... 791 mm (measuring range sensor), 5 (recommended number mounting brackets), MPA-827 mm ... 1007 mm (measuring range sensor), 6 (recommended number mounting brackets)	BEF-KHZPF125MPA	2086750
	Description: For tie-rod cylinder (diameter tie-rod max. 18 mm) Material: Aluminum, stainless steel Details: Aluminum alloy (adapter), Stainless steel V2A (mounting-/fixing screw) Usable for: MPA-107 mm ... 251 mm (sensor measuring range), 2 (recommended number of brackets), MPA-287 mm ... 431 mm (measuring range sensor), 3 (recommended number mounting brackets), MPA-467 mm ... 647 mm (measuring range sensor), 4 (recommended number mounting brackets), MPA-683 mm ... 791 mm (measuring range sensor), 5 (recommended number mounting brackets), MPA-827 mm ... 1007 mm (measuring range sensor), 6 (recommended number mounting brackets)	BEF-KHZPZ1MPA	2065578
	Description: For round body cylinders with diameter up to 85 mm Material: Stainless steel Details: Stainless steel V2A Usable for: MPA-107 mm ... 359 mm (measuring range sensor), 2 (recommended number brackets), MPA-395 mm ... 647 mm (measuring range sensor), 3 (recommended number brackets), MPA-683 mm ... 935 mm (measuring range sensor), 4 (recommended number brackets), MPA-971 mm ... 1,007 mm (measuring range sensor), 5 (recommended number brackets)	BEF-KHZR085MPA	2066626
	Description: For round body cylinders with diameter up to 135 mm Material: Stainless steel Details: Stainless steel V2A Usable for: MPA-107 mm ... 359 mm (measuring range sensor), 2 (recommended number brackets), MPA-395 mm ... 647 mm (measuring range sensor), 3 (recommended number brackets), MPA-683 mm ... 935 mm (measuring range sensor), 4 (recommended number brackets), MPA-971 mm ... 1,007 mm (measuring range sensor), 5 (recommended number brackets)	BEF-KHZR135MPA	2066627
	Description: For round body cylinders with diameter up to 210 mm Material: Stainless steel Details: Stainless steel V2A Usable for: MPA-107 mm ... 359 mm (measuring range sensor), 2 (recommended number brackets), MPA-395 mm ... 647 mm (measuring range sensor), 3 (recommended number brackets), MPA-683 mm ... 935 mm (measuring range sensor), 4 (recommended number brackets), MPA-971 mm ... 1,007 mm (measuring range sensor), 5 (recommended number brackets)	BEF-KHZR210MPA	2066628
	Description: For T-slot cylinders Material: Stainless steel, brass Details: Stainless steel V2A (bracket/mounting screw), Brass (fixing screw/sliding nut) Usable for: MPA-107 mm ... 251 mm (sensor measuring range), 2 (recommended number of brackets), MPA-287 mm ... 431 mm (measuring range sensor), 3 (recommended number mounting brackets), MPA-467 mm ... 647 mm (measuring range sensor), 4 (recommended number mounting brackets), MPA-683 mm ... 791 mm (measuring range sensor), 5 (recommended number mounting brackets), MPA-827 mm ... 1007 mm (measuring range sensor), 6 (recommended number mounting brackets)	BEF-KHZT01MPA	2065575
	Description: Sensor adapter CP96-63 Dimensions (W x H x L): 10 mm x 11.7 mm x 12.6 mm Material: Stainless steel Details: Stainless steel V2A Usable for: MPA-107 mm ... 251 mm (sensor measuring range), 2 (recommended number of brackets), MPA-287 mm ... 431 mm (measuring range sensor), 3 (recommended number mounting brackets), MPA-467 mm ... 647 mm (measuring range sensor), 4 (recommended number mounting brackets), MPA-683 mm ... 791 mm (measuring range sensor), 5 (recommended number mounting brackets), MPA-827 mm ... 1007 mm (measuring range sensor), 6 (recommended number mounting brackets)	BEF-KHZTS063MPA	2086756

	Brief description	Type	Part no.
	Description: Sensor adapter CP96-80 Dimensions (W x H x L): 10 mm x 13.7 mm x 14.8 mm Material: Stainless steel Details: Stainless steel V2A Usable for: MPA-107 mm ... 251 mm (sensor measuring range), 2 (recommended number of brackets), MPA-287 mm ... 431 mm (measuring range sensor), 3 (recommended number mounting brackets), MPA-467 mm ... 647 mm (measuring range sensor), 4 (recommended number mounting brackets), MPA-683 mm ... 791 mm (measuring range sensor), 5 (recommended number mounting brackets), MPA-827 mm ... 1007 mm (measuring range sensor), 6 (recommended number mounting brackets)	BEF-KHZTS080MPA	2086757
	Description: Sensor adapter CP96-100 Dimensions (W x H x L): 10 mm x 12.9 mm x 14.8 mm Material: Stainless steel Details: Stainless steel V2A Usable for: MPA-107 mm ... 251 mm (sensor measuring range), 2 (recommended number of brackets), MPA-287 mm ... 431 mm (measuring range sensor), 3 (recommended number mounting brackets), MPA-467 mm ... 647 mm (measuring range sensor), 4 (recommended number mounting brackets), MPA-683 mm ... 791 mm (measuring range sensor), 5 (recommended number mounting brackets), MPA-827 mm ... 1007 mm (measuring range sensor), 6 (recommended number mounting brackets)	BEF-KHZTS100MPA	2086758
	Description: Sensor adapter CP96-125 Dimensions (W x H x L): 10 mm x 12.2 mm x 14.6 mm Material: Stainless steel Details: Stainless steel V2A Usable for: MPA-107 mm ... 251 mm (sensor measuring range), 2 (recommended number of brackets), MPA-287 mm ... 431 mm (measuring range sensor), 3 (recommended number mounting brackets), MPA-467 mm ... 647 mm (measuring range sensor), 4 (recommended number mounting brackets), MPA-683 mm ... 791 mm (measuring range sensor), 5 (recommended number mounting brackets), MPA-827 mm ... 1007 mm (measuring range sensor), 6 (recommended number mounting brackets)	BEF-KHZTS125MPA	2086759
Others			
 	Product segment: Magnets Product: Position magnets Description: Magnet with mounting hole for M3 countersunk screw, Ø 15.2 mm, height 6 mm Material: Hard ferrite	Magnet	5327349
	Description: Label Holder, 2.5 mm to 3.5 mm, 10 pcs. Material: Plastic Details: TPU Packing unit: 10 pieces	LABEL HOLDER	2086019

Recommended services

Additional services → www.sick.com/MPA

	Type	Part no.
Function Block Factory		
Description: The Function Block Factory is an engineering tool for creating device and environment-specific function blocks that enable IO-Link sensors to be integrated into programmable logic controllers. The Function Block Factory supports common programmable logic controllers (PLCs) of various manufacturers such as Siemens, Beckhoff, Rockwell Automation B&R and more. More information on the FBF can be found here. Provision: Customers can obtain access to the Function Block Factory and the license via https://fbf.cloud.sick.com.	Function Block Factory	On request

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

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