



MPS-224TLTQ0

MPS-T

CYLINDER SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | part no. |
|--------------|----------|
| MPS-224TLTQ0 | 1062522 |

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 | 224 mm ¹⁾ |
| Housing length | 237 mm |
| Output function | IO-Link |
| Electrical wiring | DC 4-wire |
| Enclosure rating | IP67 ²⁾ |
| Adjustment | |
| Teach-in control panel | Resetting the measuring range to factory settings |
| IO-Link | Key lock Teaching in the measuring range Resetting the measuring range |
| IO-Link functions | Standard functions |

¹⁾ ± 1 mm.

²⁾ According to EN 60529.

Mechanics/electronics

| | |
|-----------------------|---------------------|
| Supply voltage | 15 V DC ... 30 V DC |
|-----------------------|---------------------|

¹⁾ FSR: Full Scale Range; max. measuring range.

²⁾ At 25 ° C, linearity error (maximum deviation) depending on response curve and minimal deviation function.

³⁾ At 25 ° C, repeatability magnet movement in one direction.

⁴⁾ Only in standard mode, not in IO-Link mode.

⁵⁾ The analog measured value can deviate for up to 100 ms under transient conditions.

| | |
|--|--|
| Power consumption | 25 mA, without load |
| 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) ¹⁾ |
| Linearity error, typ. | 0.3 mm ²⁾ |
| Repeat accuracy, typ. | 0.06 % FSR (≥ 0.1 mm) ³⁾ |
| Sampling rate, typ. | 1 ms ⁴⁾ |
| 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 ⁵⁾ |
| Connection type | Cable with M12 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⁾ FSR: Full Scale Range; max. measuring range.

²⁾ At 25 °C, linearity error (maximum deviation) depending on response curve and minimal deviation function.

³⁾ At 25 °C, repeatability magnet movement in one direction.

⁴⁾ Only in standard mode, not in IO-Link mode.

⁵⁾ The analog measured value can deviate for up to 100 ms under transient conditions.

Safety-related parameters

| | |
|-------------------------------------|-----------|
| MTTF_D | 222 years |
| DC_{avg} | 0 % |
| T_M (mission time) | 20 years |

Communication interface

| | |
|---------------------------------------|--------------|
| Communication interface | IO-Link V1.1 |
| Communication Interface detail | COM2 |
| Cycle time | 2.3 ms |
| Process data length | 16 Bit |

| | |
|-------------------------------|---------------------------------------|
| Process data structure | Bit 0 ... 15 = position (in 1 mm/128) |
|-------------------------------|---------------------------------------|

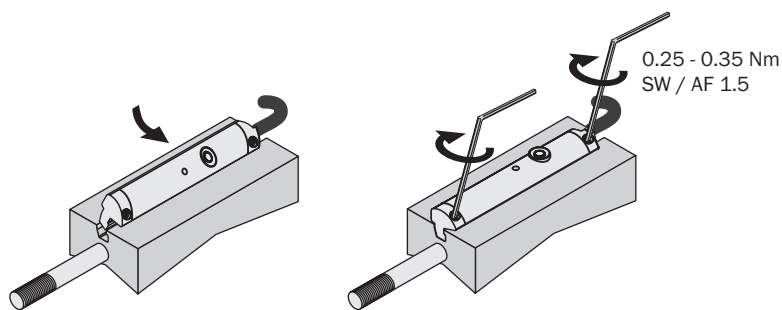
Certificates

| | |
|--|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| cULus certificate | ✓ |
| IO-Link certificate | ✓ |
| Information according to Art. 3 of Data Act (Regulation EU 2023/2854) | ✓ |

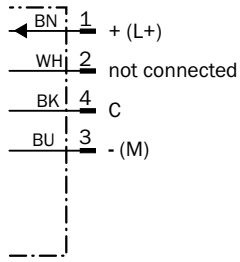
Classifications

| | |
|-----------------------|----------|
| 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 |

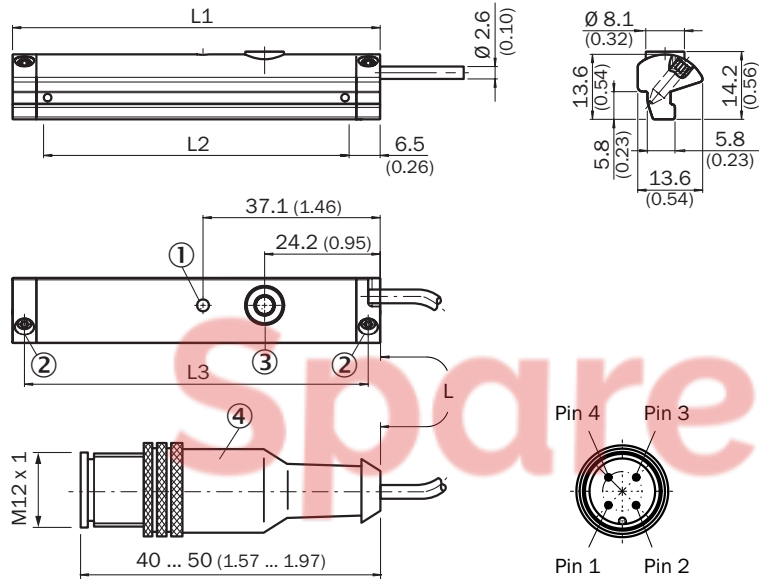
Installation note



Connection diagram Cd-179



Dimensional drawing Cable with connector M12, with knurled nut, 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

| Part no. | Type | L | Number of cores |
|----------|-----------------|--------|-----------------|
| 1097751 | MPS-032TSTQDS06 | 600 mm | 4 |
| 1062506 | MPS-032TLTQ0 | 300 mm | 4 |
| 1062507 | MPS-064TLTQ0 | 300 mm | 4 |
| 1062508 | MPS-096TLTQ0 | 300 mm | 4 |
| 1062518 | MPS-128TLTQ0 | 300 mm | 4 |
| 1062521 | MPS-160TLTQ0 | 300 mm | 4 |
| 1062519 | MPS-192TLTQ0 | 300 mm | 4 |
| 1062522 | MPS-224TLTQ0 | 300 mm | 4 |
| 1062520 | MPS-256TLTQ0 | 300 mm | 4 |
| 1096343 | MPS-128TSTQD | 250 mm | 3 |


Recommended accessories

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

| | Brief description | Type | part no. |
|---|--|-----------------|----------|
| Mounting systems | | | |
|  | <ul style="list-style-type: none"> Description: Mounting bracket for mounting on SMC rails ECDQ2 (T-slot) Material: Aluminum Details: Aluminum Items supplied: Without mounting hardware | BEF-KHZ-TT1 | 2046439 |
|  | <ul style="list-style-type: none"> Description: Mounting bracket for mounting on SMC rails CDQ2 (T-slot) Material: Aluminum Details: Aluminum Items supplied: Without mounting hardware | BEF-KHZ-TT2 | 2046440 |
|  | <ul style="list-style-type: none"> Description: Mounting bracket for cylinder with dovetail slot Material: Aluminum Details: Aluminum Items supplied: Without mounting hardware | BEF-KHZ-ST1 | 2022703 |
|  | <ul style="list-style-type: none"> 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 |
|  | <ul style="list-style-type: none"> 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 |
|  | <ul style="list-style-type: none"> 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 |
|  | <ul style="list-style-type: none"> 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 |
|  | <ul style="list-style-type: none"> 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 |
|  | <ul style="list-style-type: none"> 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 |
|  | <ul style="list-style-type: none"> 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 | Type | part no. |
|---|--|---------------|----------|
|  | <ul style="list-style-type: none"> • Suitable for: T-slot • 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 mm • Material: Plastic, Aluminum • Details: Plastic, Aluminum • Packing unit: 1 piece • Suitable for: T-slot | BEF-KHZ-RT-32 | 2077677 |
|  | <ul style="list-style-type: none"> • 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 mm • Material: Plastic, Aluminum • Details: Plastic, Aluminum • Packing unit: 1 piece • Suitable for: T-slot | BEF-KHZ-RT-40 | 2077676 |
|  | <ul style="list-style-type: none"> • 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 mm • Material: Plastic, Aluminum • Details: Plastic, Aluminum • Packing unit: 1 piece • Suitable for: T-slot | BEF-KHZ-RT-50 | 2077675 |
|  | <ul style="list-style-type: none"> • 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 mm • Material: Plastic, Aluminum • Details: Plastic, Aluminum • Packing unit: 1 piece • Suitable for: T-slot | BEF-KHZ-RT-63 | 2077674 |
|  | <ul style="list-style-type: none"> • 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 |
|  | <ul style="list-style-type: none"> • Description: Label Holder, 2.5 mm to 3.5 mm, 10 pcs. • Material: Plastic • Details: TPU • Packing unit: 10 pieces | LABEL HOLDER | 2086019 |
|  | <ul style="list-style-type: none"> • Description: Cable clips T-slot, 10 pcs./bag | CABLE CLIPS | 2059322 |

| | Brief description | Type | part no. |
|---|--|--------------------|----------|
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² | DOS-1204-G | 6007302 |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, angled, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² | DOS-1204-W | 6007303 |
|  | <ul style="list-style-type: none"> • Connection type head A: Male connector, M12, 4-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² | STE-1204-G | 6009932 |
|  | <ul style="list-style-type: none"> • Connection type head A: Male connector, M12, 4-pin, angled, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² | STE-1204-W | 6022084 |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 4-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-020UB3XLEAX | 2095607 |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-050UB3XLEAX | 2095608 |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 4-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YG2A14-020UB3XLEAX | 2095766 |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 4-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YG2A14-050UB3XLEAX | 2095767 |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 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 | YF2A14-C60UB3XLEAX | 2145654 |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 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 | YF2A14-010UB3XLEAX | 2145655 |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 3 m, 4-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation | YF2A14-030UB3XLEAX | 2145656 |
|  | <ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, angled, 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 | YG2A14-C60UB3XLEAX | 2145657 |

| | Brief description | Type | part no. |
|---|---|--------------------|----------|
|  | <ul style="list-style-type: none"> • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation • Connection type head A: Female connector, M12, 4-pin, angled, 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 | YG2A14-010UB3XLEAX | 2145658 |

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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.”

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