



MZT8-03VPS-KRD

MZT8

CYLINDER SENSORS

SICK
Sensor Intelligence.



Ordering information

| Type | part no. |
|----------------|----------|
| MZT8-03VPS-KRD | 1044464 |

Other models and accessories → www.sick.com/MZT8



Detailed technical data

Features

| | |
|------------------------------------|--|
| Cylinder type | T-slot |
| Cylinder types with adapter | Profile cylinder Tie rod cylinder Round body cylinder Dovetail groove cylinder SMC rail CDQ2 SMC rail ECDQ2 |
| Housing length | 24 mm |
| Switching output | PNP |
| Switching frequency | 1,000 Hz |
| Output function | NO |
| Electrical wiring | DC 3-wire |
| Enclosure rating | IP68 ¹⁾ |

¹⁾ According to EN 60529 (IP 67 / IP 68).

Mechanics/electronics

| | |
|---|---------------------|
| Supply voltage | 10 V DC ... 30 V DC |
| Power consumption | 10 mA, without load |
| Voltage drop | ≤ 2.2 V |
| Continuous current I_a | ≤ 200 mA |
| Protection class | III |
| Time delay before availability | 25 ms |
| Response sensitivity, typ. | 2.6 mT |
| Overrun distance, typ. | 3 mm ¹⁾ |

¹⁾ Distance covered by the encoder magnet while the sensor outputs a switching signal.

²⁾ Supply voltage U_B and constant ambient temperature T_a.

| | |
|---------------------------------------|---|
| Hysteresis, typ. | 0.7 mT |
| Reproducibility | ≤ 0.1 mT ²⁾ |
| Reverse polarity protection | Yes |
| Short-circuit protection | Yes |
| Status indicator LED | Yes |
| Teach-in | No |
| Power-up pulse protection | Yes |
| Ambient operating temperature | -30 °C ... +80 °C |
| Shock and vibration resistance | 30 g, 11 ms / 10 ... 55 Hz, 1 mm |
| EMC | According to EN 60947-5-2 |
| Connection type | Cable with plug M8, 3-pin, with knurled nut, drag chain use, 0.3 m |
| Connection type Detail | |
| Conductor cross section | 0.14 mm ² |
| Cable diameter | Ø 2.9 mm |
| Bending radius | With fixed installation > 3 x cable diameter For flexible use > 10 x cable diameter |
| Torsion force | ± 270° / 10 cm |
| Torsion cycles | > 2,000,000 |
| Drag chain cycles | > 2,000,000 |
| Drag chain parameters | Traversing speed max. 3.3 m/s at 5 m horizontal traversing length Acceleration max. 5 m/s ² |
| Cable outlet | Axial |
| Material | |
| Housing | Plastic, PA12 |
| Cable | PUR |
| Items supplied | 2 x label holder attached |
| UL File No. | NRKH.E181493 & NRKH7.E181493 |

1) Distance covered by the encoder magnet while the sensor outputs a switching signal.

2) Supply voltage U_B and constant ambient temperature T_a .

Safety-related parameters

| | |
|-------------------------------------|-------------|
| MTTF_D | 2,289 years |
| DC_{avg} | 0 % |
| T_M (mission time) | 20 years |

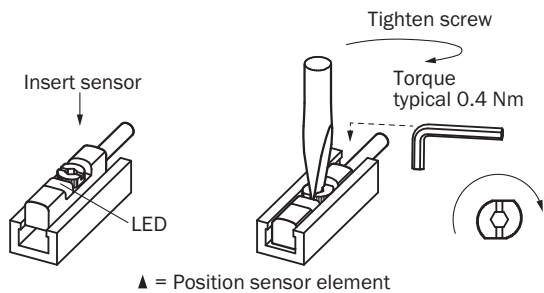
Certificates

| | |
|---|---|
| EU declaration of conformity | ✓ |
| UK declaration of conformity | ✓ |
| ACMA declaration of conformity | ✓ |
| Moroccan declaration of conformity | ✓ |
| China RoHS | ✓ |
| cULus certificate | ✓ |

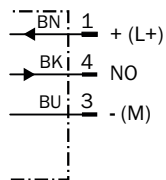
Classifications

| | |
|-----------------------|----------|
| 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-002



Functional principle Overrun distance



Note: Sensor housing may differ; representation corresponds to "NO contact" output function; overrun distance = switching point width + hysteresis

- ① Position sensor element
- ② Width of the switching point
- ③ Hysteresis
- ④ Direction of movement of the magnet

Dimensional drawing Cable with plug M8, with knurled nut



Dimensions in mm (inch)

① Connection

② Fixing screw SW 2.0


③ Display LED

④ Sensor element position; short overrun distance (3 mm): 2.25 mm, long overrun distance (9 mm): 1.5 mm






| Part no. | Type | L | Number of cores |
|----------|-------------------|--------|-----------------|
| 1044464 | MZT8-03VPS-KRD | 300 mm | 3 |
| 1048502 | MZT8-03VPS-KRDS04 | 300 mm | 3 |
| 1067400 | MZT8-03VPS-KRDS12 | 300 mm | 3 |
| 1044459 | MZT8-03VPS-KR0 | 500 mm | 3 |
| 1044935 | MZT8-03VNS-KR0 | 500 mm | 3 |
| 1046374 | MZT8-03VPS-KR0S01 | 500 mm | 3 |
| 1048050 | MZT8-28VPS-KR0 | 500 mm | 3 |
| 1048174 | MZT8-28VPS-KR0S02 | 500 mm | 3 |
| 1048503 | MZT8-03VPS-KR0S05 | 500 mm | 3 |
| 1069392 | MZT8-03VPS-KRDS13 | 500 mm | 3 |
| 1069393 | MZT8-03VPO-KRDS14 | 500 mm | 3 |
| 1069394 | MZT8-03VNS-KRDS15 | 500 mm | 3 |
| 1069395 | MZT8-03VNO-KRDS16 | 500 mm | 3 |
| 1109451 | MZT8-2V8PSWKR0 | 500 mm | 3 |
| 1144310 | MZT8-03VPS-KRDS46 | 1.5 m | 3 |
| 1106079 | MZT8-03VPS-KRDS35 | 2 m | 3 |
| 1044463 | MZT8-03VPS-KRB | 5 m | 3 |

Recommended accessories




Other models and accessories → www.sick.com/MZT8

| | Brief description | Type | part no. |
|---|--|-------------|----------|
| device protection and care | | | |
|  | <ul style="list-style-type: none">• Description: Protective adapter• Material: Zinc diecast• Items supplied: Mounting hardware included• Suitable for: MZT7, RZT7, MZT8 | BEF-SG-MRZT | 2077201 |

| | Brief description | Type | part no. |
|------------------|--|-----------------|----------|
| Mounting systems | | | |
| | <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: 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 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 ... 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 Suitable for: T-slot | BEF-KHZ-RT-25 | 2077678 |
| | <ul style="list-style-type: none"> 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 |
| | <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 m Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece | BEF-KHZ-RT-40 | 2077676 |

| | 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 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 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 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 |

| | Brief description | Type | part no. |
|---|---|--------------------|----------|
| connectors and cables | | | |
|  | <ul style="list-style-type: none"> Description: Unshielded Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection systems: Screw-type terminals Permitted cross-section: 0.14 mm² ... 0.5 mm² | DOS-0803-G | 7902077 |
|  | <ul style="list-style-type: none"> Description: Unshielded Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection systems: Solder connection Permitted cross-section: ≤ 0.25 mm² | DOS-0803-W | 7902078 |
|  | <ul style="list-style-type: none"> Description: Unshielded Connection type head A: Male connector, M8, 3-pin, straight, A-coded Connection systems: Screw-type terminals Permitted cross-section: 0.14 mm² ... 0.5 mm² | STE-0803-G | 6037322 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 3-wire, PVC Application: Untaminated zones, Zones with chemicals | YF8U13-020VA1XLEAX | 2095860 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 3-wire, PVC Application: Untaminated zones, Zones with chemicals | YF8U13-050VA1XLEAX | 2095884 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 3-wire, PVC Application: Untaminated zones, Zones with chemicals | YG8U13-020VA1XLEAX | 2096165 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 3-wire, PVC Application: Untaminated zones, Zones with chemicals | YG8U13-050VA1XLEAX | 2096166 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 3-wire, PUR, halogen-free Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YF8U13-020UA1XLEAX | 2094782 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 3-wire, PUR, halogen-free Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YF8U13-050UA1XLEAX | 2094788 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 3-wire, PUR, halogen-free Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YG8U13-020UA1XLEAX | 2094794 |
|  | <ul style="list-style-type: none"> Description: Sensor/actuator cable, unshielded Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 3 m, 3-wire, PUR, halogen-free | YF8U13-030UA1XLEAX | 2094787 |

| | Brief description | Type | part no. |
|---|--|--------------------|----------|
|  | <ul style="list-style-type: none"> • Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M8, 3-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 0.6 m, 3-wire, PUR, halogen-free • Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YG8U13-C60UA1XLEAX | 2145889 |
|  | <ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M8, 3-pin, angled, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 3 m, 3-wire, PUR, halogen-free • Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation | YG8U13-030UA1XLEAX | 2145891 |
|  | <ul style="list-style-type: none"> • Description: Sensor/actuator cable, unshielded • Connection type head A: Female connector, M8, 3-pin, straight, A-coded • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 0.6 m, 3-wire, PVC • Application: Uncontaminated zones, Zones with chemicals | YF8U13-C60VA1XLEAX | 2146368 |

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.

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For us, that is “Sensor Intelligence.”

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