



# MZT8-03VPO-KRDS14

MZT8

SENSORS FOR T-SLOT CYLINDERS

**SICK**  
Sensor Intelligence.

# MZT8-03VPO-KRDS14 | MZT8

SENSORS FOR T-SLOT CYLINDERS



## Ordering information

| Type              | Part no. |
|-------------------|----------|
| MZT8-03VPO-KRDS14 | 1069393  |

Other models and accessories → [www.sick.com/MZT8](http://www.sick.com/MZT8)



## Detailed technical data

### Features

|                                    |  |
|------------------------------------|--|
| <b>Cylinder type</b>               | T-slot   |
| <b>Cylinder types with adapter</b> | Profile cylinder<br>Tie rod cylinder<br>Round body cylinder<br>Dovetail groove cylinder<br>SMC rail CDQ2<br>SMC rail ECDQ2 |
| <b>Housing length</b>              | 24 mm  |
| <b>Switching output</b>            | PNP  |
| <b>Switching frequency</b>         | 1,000 Hz   |
| <b>Output function</b>             | NC   |
| <b>Electrical wiring</b>           | DC 3-wire  |
| <b>Enclosure rating</b>            | IP68 <sup>1) 2)</sup>  |
| <b>Special features</b>            | 20 ms pulse stretching (off delay)   |

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

<sup>2)</sup> Restriction for steam cleaner: pressure 100 bar, temperature < 80 °C, distance minimum 150 mm.

### Mechanics/electronics

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

<sup>1)</sup> U<sub>b</sub> and T<sub>a</sub> constant.

|                                       |   |
|---------------------------------------|---|
| <b>Hysteresis, typ.</b>               | 0.7 mT  |
| <b>Reproducibility</b>                | ≤ 0.1 mT <sup>1)</sup>  |
| <b>Reverse polarity protection</b>    | Yes   |
| <b>Short-circuit protection</b>       | Yes   |
| <b>Power-up pulse protection</b>      | Yes   |
| <b>Ambient operating temperature</b>  | -30 °C ... +80 °C   |
| <b>Shock and vibration resistance</b> | 30 g, 11 ms / 10 ... 55 Hz, 1 mm  |
| <b>EMC</b>                            | According to EN 60947-5-2   |
| <b>Connection type</b>                | Cable with connector M8, 3-pin, with knurled nuts, drag chain use, 0.5 m                                  |
| <b>Connection type Detail</b>         |   |
| Conductor cross section               | 0.14 mm <sup>2</sup>  |
| Cable diameter                        | Ø 2.9 mm  |
| Bending radius                        | With fixed installation > 3 x cable diameter<br>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<br>Acceleration max. 5 m/s <sup>2</sup> |
| Cable outlet                          | Axial   |
| <b>Material</b>                       |   |
| Housing                               | Plastic, PA12   |
| Cable                                 | PUR   |
| <b>UL File No.</b>                    | NRKH.E181493 & NRKH7.E181493  |

<sup>1)</sup> Ub and Ta constant.

### Safety-related parameters

|                                     |             |
|-------------------------------------|-------------|
| <b>MTTF<sub>D</sub></b>             | 2,289 years |
| <b>DC<sub>avg</sub></b>             | 0 %         |
| <b>T<sub>M</sub> (mission time)</b> | 20 years    |

### Classifications

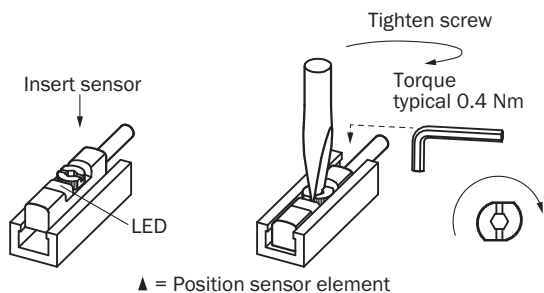
|                     |          |
|---------------------|----------|
| <b>eCl@ss 5.0</b>   | 27270104 |
| <b>eCl@ss 5.1.4</b> | 27270104 |
| <b>eCl@ss 6.0</b>   | 27270104 |
| <b>eCl@ss 6.2</b>   | 27270104 |
| <b>eCl@ss 7.0</b>   | 27270104 |
| <b>eCl@ss 8.0</b>   | 27270104 |
| <b>eCl@ss 8.1</b>   | 27270104 |
| <b>eCl@ss 9.0</b>   | 27270104 |
| <b>eCl@ss 10.0</b>  | 27270104 |
| <b>eCl@ss 11.0</b>  | 27270104 |
| <b>eCl@ss 12.0</b>  | 27274301 |
| <b>ETIM 5.0</b>     | EC002544 |

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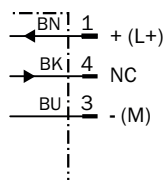
|                       |          |
|-----------------------|----------|
| <b>ETIM 6.0</b>       | EC002544 |
| <b>ETIM 7.0</b>       | EC002544 |
| <b>ETIM 8.0</b>       | EC002544 |
| <b>UNSPSC 16.0901</b> | 39122230 |

## Installation note



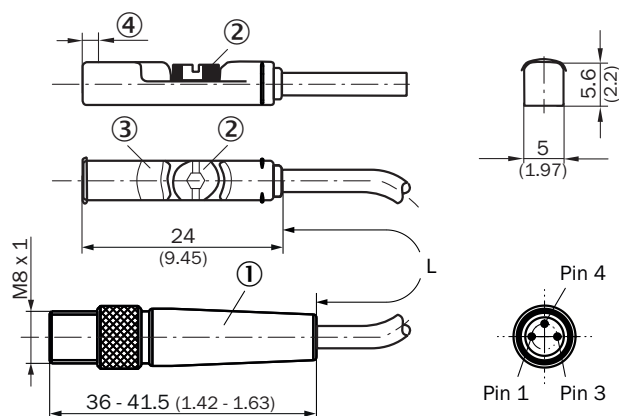
## Connection diagram

Cd-004



## Dimensional drawing (Dimensions in mm (inch))

Cable with connector M8, with knurled nuts






- 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  | MZT8-2V8PSWKRO    | 500 mm | 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](http://www.sick.com/MZT8)

|   | Brief description   | Type          | Part no. |
|---|---|---------------|----------|
| <b>Brackets for cylinder sensors</b>  |   |               |          |
|  | Mounting bracket for cylinder with dovetail slot, Aluminum, without mounting hardware   | BEF-KHZ-ST1   | 2022703  |
|  | Mounting bracket for integrated profile cylinder/tie-rod cylinder, zinc diecast, mounting hardware included                               | BEF-KHZ-PT1   | 2022702  |
|  | 1 piece, Mounting bracket on round body cylinder with piston diameter of 12 mm, ambient temperature min 0 °C max 50 °C, plastic, Aluminum | BEF-KHZ-RT-12 | 2077681  |
|   | 1 piece, Mounting bracket on round body cylinder with piston diameter of 16 mm, ambient temperature min 0 °C max 50 °C, plastic, Aluminum | BEF-KHZ-RT-16 | 2077680  |
|   | 1 piece, Mounting bracket on round body cylinder with piston diameter of 20 mm, ambient temperature min 0 °C max 50 °C, plastic, Aluminum | BEF-KHZ-RT-20 | 2077679  |
|   | 1 piece, Mounting bracket on round body cylinder with piston diameter of 25 mm, ambient temperature min 0 °C max 50 °C, plastic, Aluminum | BEF-KHZ-RT-25 | 2077678  |
|   | 1 piece, Mounting bracket on round body cylinder with piston diameter of 32 mm, ambient temperature min 0 °C max 50 °C, plastic, Aluminum | BEF-KHZ-RT-32 | 2077677  |
|   | 1 piece, Mounting bracket on round body cylinder with piston diameter of 40 mm, ambient temperature min 0 °C max 50 °C, plastic, Aluminum | BEF-KHZ-RT-40 | 2077676  |
|   | 1 piece, Mounting bracket on round body cylinder with piston diameter of 50 mm, ambient temperature min 0 °C max 50 °C, plastic, Aluminum | BEF-KHZ-RT-50 | 2077675  |
|   | 1 piece, Mounting bracket on round body cylinder with piston diameter of 63 mm, ambient temperature min 0 °C max 50 °C, plastic, Aluminum | BEF-KHZ-RT-63 | 2077674  |

|   | Brief description  | Type               | Part no. |
|---|--|--------------------|----------|
|    | 1 piece, Mounting bracket on round body cylinder with piston diameter of 8 mm ... 130 mm, ambient temperature min -30 °C max 80 °C, stainless steel, Zinc cast | BEF-KHZ-RT1-130    | 2077684  |
|   | 1 piece, Mounting bracket on round body cylinder with piston diameter of 8 mm ... 25 mm, ambient temperature min -30 °C max 80 °C, stainless steel, Zinc cast  | BEF-KHZ-RT1-25     | 2077682  |
|   | 1 piece, Mounting bracket on round body cylinder with piston diameter of 8 mm ... 63 mm, ambient temperature min -30 °C max 80 °C, stainless steel, Zinc cast  | BEF-KHZ-RT1-63     | 2077683  |
|    | Mounting bracket for mounting on SMC rails CDQ2 (T-slot), Aluminum, without mounting hardware  | BEF-KHZ-TT2        | 2046440  |
|    | Mounting bracket for mounting on SMC rails ECDQ2 (T-slot), Aluminum, without mounting hardware   | BEF-KHZ-TT1        | 2046439  |
| <b>Device protection (mechanical)</b>   |  |                    |          |
|    | Protective adapter, die-cast zinc, mounting hardware included  | BEF-SG-MRZT        | 2077201  |
| <b>Plug connectors and cables</b>   |  |                    |          |
|    | Head A: female connector, M8, 3-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m             | YF8U13-020UA1XLEAX | 2094782  |
|    | Head A: female connector, M8, 3-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 2 m                           | YF8U13-020VA1XLEAX | 2095860  |
|  | Head A: female connector, M8, 3-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 3 m             | YF8U13-030UA1XLEAX | 2094787  |
|   | Head A: female connector, M8, 3-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 5 m             | YF8U13-050UA1XLEAX | 2094788  |
|  | Head A: female connector, M8, 3-pin, straight, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 5 m                           | YF8U13-050VA1XLEAX | 2095884  |
|  | Head A: female connector, M8, 3-pin, angled, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 2 m               | YG8U13-020UA1XLEAX | 2094794  |
|  | Head A: female connector, M8, 3-pin, angled, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 2 m                             | YG8U13-020VA1XLEAX | 2096165  |
|   | Head A: female connector, M8, 3-pin, angled, A-coded<br>Head B: Flying leads<br>Cable: Sensor/actuator cable, PVC, unshielded, 5 m                             | YG8U13-050VA1XLEAX | 2096166  |
|  | Head A: female connector, M8, 3-pin, straight<br>Cable: unshielded   | DOS-0803-G         | 7902077  |
|  | Head A: female connector, M8, 3-pin, angled<br>Cable: unshielded   | DOS-0803-W         | 7902078  |
|  | Head A: male connector, M8, 3-pin, straight<br>Cable: unshielded   | STE-0803-G         | 6037322  |

## 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.

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