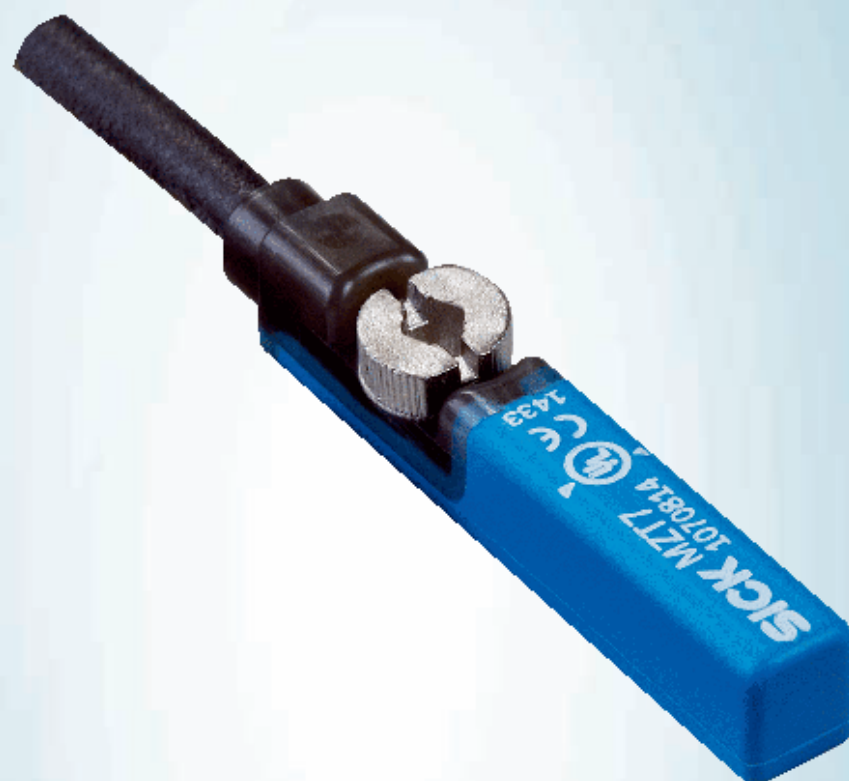




# MZT7-03VPS-KW0

## MZT7

CYLINDER SENSORS

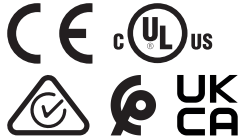
**SICK**  
Sensor Intelligence.



### Ordering information

| Type           | part no. |
|----------------|----------|
| MZT7-03VPS-KW0 | 1070838  |

Other models and accessories → [www.sick.com/MZT7](http://www.sick.com/MZT7)



### 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>              | 29.5 mm                                                                                                                    |
| <b>Switching output</b>            | PNP                                                                                                                        |
| <b>Switching frequency</b>         | 1,000 Hz                                                                                                                   |
| <b>Output function</b>             | NO                                                                                                                         |
| <b>Electrical wiring</b>           | DC 3-wire                                                                                                                  |
| <b>Enclosure rating</b>            | IP65 <sup>1)</sup><br>IP67                                                                                                 |

<sup>1)</sup> According to EN 60529.

#### Mechanics/electronics

|                                         |                        |
|-----------------------------------------|------------------------|
| <b>Supply voltage</b>                   | 10 V DC ... 30 V DC    |
| <b>Power consumption</b>                | 8 mA, without load     |
| <b>Voltage drop</b>                     | ≤ 2 V                  |
| <b>Continuous current I<sub>a</sub></b> | ≤ 100 mA               |
| <b>Protection class</b>                 | III                    |
| <b>Response sensitivity, typ.</b>       | 3 mT                   |
| <b>Overrun distance, typ.</b>           | 10 mm                  |
| <b>Hysteresis, typ.</b>                 | < 0.8 mT               |
| <b>Reproducibility</b>                  | ≤ 0.1 mT <sup>1)</sup> |
| <b>Reverse polarity protection</b>      | Yes                    |
| <b>Short-circuit protection</b>         | Yes                    |

<sup>1)</sup> Supply voltage U<sub>B</sub> and constant ambient temperature T<sub>a</sub>.

|                                       |                                               |
|---------------------------------------|-----------------------------------------------|
| <b>Status indicator LED</b>           | Yes                                           |
| <b>Teach-in</b>                       | No                                            |
| <b>Ambient operating temperature</b>  | -30 °C ... +70 °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, 3-wire, stripped, 2 m                  |
| <b>Connection type Detail</b>         |                                               |
| Conductor cross section               | 0.12 mm²                                      |
| Cable diameter                        | Ø 2.9 mm                                      |
| Bending radius                        | With fixed installation > 10 x cable diameter |
|                                       | For flexible use > 15 x cable diameter        |
| Cable outlet                          | Axial                                         |
| <b>Material</b>                       |                                               |
| Housing                               | Plastic                                       |
| Cable                                 | PVC                                           |
| <b>UL File No.</b>                    | NRKH.E181493 & NRKH7.E181493                  |

<sup>1)</sup> Supply voltage  $U_B$  and constant ambient temperature  $T_a$ .

## Safety-related parameters

|                                     |             |
|-------------------------------------|-------------|
| <b>MTTF<sub>D</sub></b>             | 1,300 years |
| <b>DC<sub>avg</sub></b>             | 0 %         |
| <b>T<sub>M</sub> (mission time)</b> | 20 years    |

## Certificates

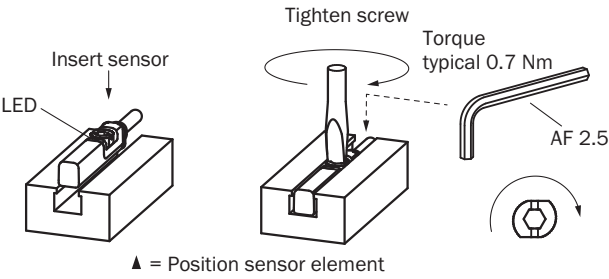
|                                           |   |
|-------------------------------------------|---|
| <b>EU declaration of conformity</b>       | ✓ |
| <b>UK declaration of conformity</b>       | ✓ |
| <b>ACMA declaration of conformity</b>     | ✓ |
| <b>Moroccan declaration of conformity</b> | ✓ |
| <b>China-RoHS</b>                         | ✓ |
| <b>cULus certificate</b>                  | ✓ |

## Classifications

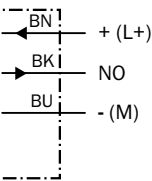
|                     |          |
|---------------------|----------|
| <b>ECLASS 5.0</b>   | 27270104 |
| <b>ECLASS 5.1.4</b> | 27270104 |
| <b>ECLASS 6.0</b>   | 27270104 |
| <b>ECLASS 6.2</b>   | 27270104 |
| <b>ECLASS 7.0</b>   | 27270104 |
| <b>ECLASS 8.0</b>   | 27270104 |
| <b>ECLASS 8.1</b>   | 27270104 |
| <b>ECLASS 9.0</b>   | 27270104 |
| <b>ECLASS 10.0</b>  | 27270104 |
| <b>ECLASS 11.0</b>  | 27270104 |
| <b>ECLASS 12.0</b>  | 27274301 |

|                |          |
|----------------|----------|
| ETIM 5.0       | EC002544 |
| ETIM 6.0       | EC002544 |
| ETIM 7.0       | EC002544 |
| ETIM 8.0       | EC002544 |
| UNSPSC 16.0901 | 39122230 |

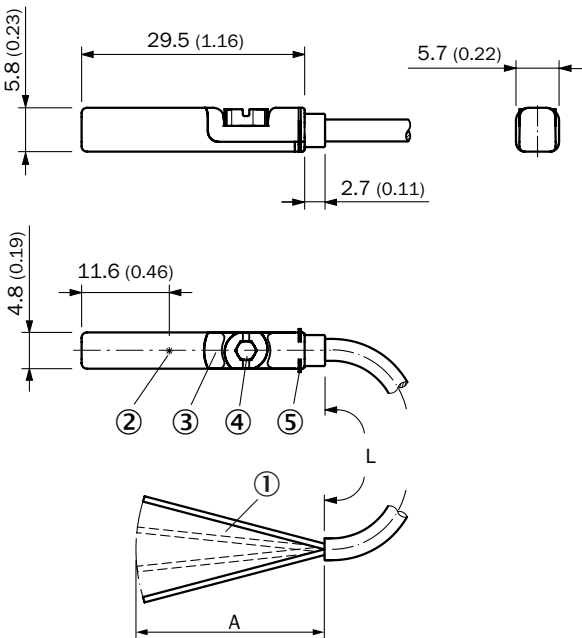
Installation note



Connection diagram Cd-001



Dimensional drawing Cable



- Dimensions in mm (inch)
- ① Connection
  - ② Position sensor element
  - ③ Display LED
  - ④ Fixing screw SW 2.5
  - ⑤ retaining ribs

|         |                   | L     | A    |   |
|---------|-------------------|-------|------|---|
| 1070829 | MZT7-03VPS-KU0    | 2 m   | 31.5 | 3 |
| 1070830 | MZT7-03VPO-KU0    | 2 m   | 31.5 | 3 |
| 1070831 | MZT7-03VNS-KU0    | 2 m   | 31.5 | 3 |
| 1070832 | MZT7-03VNO-KU0    | 2 m   | 31.5 | 3 |
| 1070838 | MZT7-03VPS-KW0    | 2 m   | 31.5 | 3 |
| 1070840 | MZT7-03VNS-KW0    | 2 m   | 31.5 | 3 |
| 1092259 | MZT7-2V2PS-KW0    | 2 m   | 31.5 | 3 |
| 1070835 | MZT7-03VNS-KUB    | 5 m   | 31.5 | 3 |
| 1070844 | MZT7-03VNS-KWB    | 5 m   | 31.5 | 3 |
| 1070833 | MZT7-03VPS-KUB    | 5 m   | 31.5 | 3 |
| 1070842 | MZT7-03VPS-KWB    | 5 m   | 31.5 | 3 |
| 1085193 | MZT7-03VPS-KUDS06 | 7.5 m | 31.5 | 3 |
| 1094617 | MZT7-03VPO-KUDS11 | 7.5 m | 31.5 | 3 |
| 1070837 | MZT7-03VPS-KUD    | 10 m  | 31.5 | 3 |
| 1089027 | MZT7-03VPS-KWD    | 10 m  | 31.5 | 3 |
| 1105431 | MZT7-03VPS-KUDS15 | 20 m  | 31.5 | 3 |

### Recommended accessories

Other models and accessories → [www.sick.com/MZT7](http://www.sick.com/MZT7)

|                                                                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                    | Type            | part no. |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------|
| Mounting systems                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                      |                 |          |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket on round body cylinder with piston diameter of 8 mm ... 130 mm, ambient temperature min -30 °C max 80 °C</li> <li><b>Material:</b> Stainless steel, Zinc cast</li> <li><b>Details:</b> Stainless steel, Zinc cast</li> <li><b>Packing unit:</b> 1 piece</li> <li><b>Suitable for:</b> T-slot</li> </ul>                  | BEF-KHZ-RT1-130 | 2077684  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket on round body cylinder with piston diameter of 8 mm ... 25 mm, ambient temperature min -30 °C max 80 °C</li> <li><b>Material:</b> Stainless steel, Zinc cast</li> <li><b>Details:</b> Stainless steel, Zinc cast</li> <li><b>Packing unit:</b> 1 piece</li> <li><b>Suitable for:</b> T-slot</li> </ul>                   | BEF-KHZ-RT1-25  | 2077682  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket on round body cylinder with piston diameter of 8 mm ... 63 mm, ambient temperature min -30 °C max 80 °C</li> <li><b>Material:</b> Stainless steel, Zinc cast</li> <li><b>Details:</b> Stainless steel, Zinc cast</li> <li><b>Packing unit:</b> 1 piece</li> <li><b>Suitable for:</b> T-slot</li> </ul>                   | BEF-KHZ-RT1-63  | 2077683  |
|    | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket on round body cylinder with piston diameter of 12 mm, ambient temperature min 0 °C max 50 °C</li> <li><b>Dimensions (W x H x L):</b> 22.4 m</li> <li><b>Material:</b> Plastic, Aluminum</li> <li><b>Details:</b> Plastic, Aluminum</li> <li><b>Packing unit:</b> 1 piece</li> <li><b>Suitable for:</b> T-slot</li> </ul> | BEF-KHZ-RT-12   | 2077681  |
|   | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket on round body cylinder with piston diameter of 16 mm, ambient temperature min 0 °C max 50 °C</li> <li><b>Dimensions (W x H x L):</b> 26.6 m</li> <li><b>Material:</b> Plastic, Aluminum</li> <li><b>Details:</b> Plastic, Aluminum</li> <li><b>Packing unit:</b> 1 piece</li> <li><b>Suitable for:</b> T-slot</li> </ul> | BEF-KHZ-RT-16   | 2077680  |
|  | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket on round body cylinder with piston diameter of 20 mm, ambient temperature min 0 °C max 50 °C</li> <li><b>Dimensions (W x H x L):</b> 30.6 m</li> <li><b>Material:</b> Plastic, Aluminum</li> <li><b>Details:</b> Plastic, Aluminum</li> <li><b>Packing unit:</b> 1 piece</li> <li><b>Suitable for:</b> T-slot</li> </ul> | BEF-KHZ-RT-20   | 2077679  |
|  | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket on round body cylinder with piston diameter of 25 mm, ambient temperature min 0 °C max 50 °C</li> <li><b>Dimensions (W x H x L):</b> 35.7 m</li> <li><b>Material:</b> Plastic, Aluminum</li> <li><b>Details:</b> Plastic, Aluminum</li> <li><b>Packing unit:</b> 1 piece</li> <li><b>Suitable for:</b> T-slot</li> </ul> | BEF-KHZ-RT-25   | 2077678  |
|  | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket on round body cylinder with piston diameter of 32 mm, ambient temperature min 0 °C max 50 °C</li> <li><b>Dimensions (W x H x L):</b> 42.9 m</li> <li><b>Material:</b> Plastic, Aluminum</li> <li><b>Details:</b> Plastic, Aluminum</li> <li><b>Packing unit:</b> 1 piece</li> <li><b>Suitable for:</b> T-slot</li> </ul> | BEF-KHZ-RT-32   | 2077677  |
|  | <ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket on round body cylinder with piston diameter of 40 mm, ambient temperature min 0 °C max 50 °C</li> <li><b>Dimensions (W x H x L):</b> 50.9 m</li> <li><b>Material:</b> Plastic, Aluminum</li> <li><b>Details:</b> Plastic, Aluminum</li> <li><b>Packing unit:</b> 1 piece</li> </ul>                                      | BEF-KHZ-RT-40   | 2077676  |

|                                                                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                                                                        | Type          | part no. |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|----------|
|    | <ul style="list-style-type: none"> <li>• <b>Suitable for:</b> T-slot</li> <li>• <b>Description:</b> Mounting bracket on round body cylinder with piston diameter of 50 mm, ambient temperature min 0 °C max 50 °C</li> <li>• <b>Dimensions (W x H x L):</b> 61.8 mm</li> <li>• <b>Material:</b> Plastic, Aluminum</li> <li>• <b>Details:</b> Plastic, Aluminum</li> <li>• <b>Packing unit:</b> 1 piece</li> <li>• <b>Suitable for:</b> T-slot</li> </ul> | BEF-KHZ-RT-50 | 2077675  |
|    | <ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting bracket on round body cylinder with piston diameter of 63 mm, ambient temperature min 0 °C max 50 °C</li> <li>• <b>Dimensions (W x H x L):</b> 73.9 mm</li> <li>• <b>Material:</b> Plastic, Aluminum</li> <li>• <b>Details:</b> Plastic, Aluminum</li> <li>• <b>Packing unit:</b> 1 piece</li> <li>• <b>Suitable for:</b> T-slot</li> </ul>                                        | BEF-KHZ-RT-63 | 2077674  |
|    | <ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting bracket for integrated profile cylinder/tie-rod cylinder</li> <li>• <b>Material:</b> Zinc diecast</li> <li>• <b>Details:</b> Zinc diecast</li> <li>• <b>Items supplied:</b> Mounting hardware included</li> </ul>                                                                                                                                                                  | BEF-KHZ-PT1   | 2022702  |
|    | <ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting bracket for mounting on SMC rails ECDQ2 (T-slot)</li> <li>• <b>Material:</b> Aluminum</li> <li>• <b>Details:</b> Aluminum</li> <li>• <b>Items supplied:</b> Without mounting hardware</li> </ul>                                                                                                                                                                                   | BEF-KHZ-TT1   | 2046439  |
|    | <ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting bracket for mounting on SMC rails CDQ2 (T-slot)</li> <li>• <b>Material:</b> Aluminum</li> <li>• <b>Details:</b> Aluminum</li> <li>• <b>Items supplied:</b> Without mounting hardware</li> </ul>                                                                                                                                                                                    | BEF-KHZ-TT2   | 2046440  |
|   | <ul style="list-style-type: none"> <li>• <b>Description:</b> Mounting bracket for cylinder with dovetail slot</li> <li>• <b>Material:</b> Aluminum</li> <li>• <b>Details:</b> Aluminum</li> <li>• <b>Items supplied:</b> Without mounting hardware</li> </ul>                                                                                                                                                                                            | BEF-KHZ-ST1   | 2022703  |
| device protection and care                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                          |               |          |
|  | <ul style="list-style-type: none"> <li>• <b>Description:</b> Protective adapter</li> <li>• <b>Material:</b> Zinc diecast</li> <li>• <b>Items supplied:</b> Mounting hardware included</li> <li>• <b>Suitable for:</b> MZT7, RZT7, MZT8</li> </ul>                                                                                                                                                                                                        | BEF-SG-MRZT   | 2077201  |

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