



# MPS-128TSNU0

MPS-T

CYLINDER SENSORS

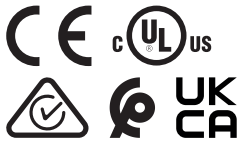
**SICK**  
Sensor Intelligence.



## Ordering information

| Type         | part no. |
|--------------|----------|
| MPS-128TSNU0 | 1050921  |

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



## Detailed technical data

### Features

|                                    |                                                                                                                                                            |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Cylinder type</b>               | T-slot                                                                                                                                                     |
| <b>Cylinder types with adapter</b> | Round body cylinder<br>Profile cylinders and tie-rod cylinders<br>Dovetail groove cylinder<br>SMC rail CDQ2<br>SMC rail ECDQ2<br>SMC cylinders with C-slot |
| <b>Measuring range</b>             | 128 mm <sup>1)</sup>                                                                                                                                       |
| <b>Housing length</b>              | 141 mm                                                                                                                                                     |
| <b>Output function</b>             | Analog                                                                                                                                                     |
| <b>Electrical wiring</b>           | DC 4-wire                                                                                                                                                  |
| <b>Analog output (voltage)</b>     | 0 V ... 10 V <sup>2)</sup>                                                                                                                                 |
| <b>Analog output (current)</b>     | 4 mA ... 20 mA <sup>2)</sup>                                                                                                                               |
| <b>Enclosure rating</b>            | IP67 <sup>3)</sup>                                                                                                                                         |

<sup>1)</sup> ± 1 mm.

<sup>2)</sup> The sensor only activates the wired output.

<sup>3)</sup> According to EN 60529.

### Mechanics/electronics

|                             |                               |
|-----------------------------|-------------------------------|
| <b>Supply voltage</b>       | 15 V DC ... 30 V DC           |
| <b>Power consumption</b>    | 22 mA, without load           |
| <b>Max. load resistance</b> | ≤ 500 Ω Power Output, at 24 V |
| <b>Min. load resistance</b> | ≥ 2 kΩ <sup>1)</sup>          |

<sup>1)</sup> Voltage output.

<sup>2)</sup> FSR: Full Scale Range; max. measuring range.

<sup>3)</sup> At 25 ° C, linearity error (maximum deviation) depending on response curve and minimal deviation function.

<sup>4)</sup> At 25 ° C, repeatability magnet movement in one direction.

<sup>5)</sup> Only in standard mode, not in IO-Link mode.

<sup>6)</sup> The analog measured value can deviate for up to 100 ms under transient conditions.

|                                                  |                                                                                        |
|--------------------------------------------------|----------------------------------------------------------------------------------------|
| <b>Protection class</b>                          | III                                                                                    |
| <b>Time delay before availability</b>            | 1.5 s                                                                                  |
| <b>Required magnetic field sensitivity, typ.</b> | 4 mT ... 30 mT                                                                         |
| <b>Resolution, typ.</b>                          | 0.03 % FSR (max. $\geq 0.05$ mm) <sup>2)</sup>                                         |
| <b>Linearity error, typ.</b>                     | 0.3 mm <sup>3)</sup>                                                                   |
| <b>Repeat accuracy, typ.</b>                     | 0.06 % FSR ( $\geq 0.1$ mm) <sup>4)</sup>                                              |
| <b>Sampling rate, typ.</b>                       | 1 ms <sup>5)</sup>                                                                     |
| <b>Reverse polarity protection</b>               | Yes                                                                                    |
| <b>Short-circuit protection</b>                  | Yes                                                                                    |
| <b>Status indicator LED</b>                      | Yes                                                                                    |
| <b>Teach-in</b>                                  | No                                                                                     |
| <b>Ambient operating temperature</b>             | -20 °C ... +70 °C                                                                      |
| <b>Shock and vibration resistance</b>            | 30 g, 11 ms / 10 ... 55 Hz, 1 mm                                                       |
| <b>EMC</b>                                       | According to EN 60947-5-7 <sup>6)</sup>                                                |
| <b>Connection type</b>                           | Cable, 4-wire, stripped, 2 m                                                           |
| <b>Connection type Detail</b>                    |                                                                                        |
| Deep-freeze property                             | Do not bend below 0 °C                                                                 |
| Conductor cross section                          | 0.08 mm <sup>2</sup>                                                                   |
| Cable diameter                                   | Ø 2.6 mm                                                                               |
| Bending radius                                   | With fixed installation > 5 x cable diameter<br>For flexible use > 10 x cable diameter |
| Cable outlet                                     | Axial                                                                                  |
| <b>Material</b>                                  |                                                                                        |
| Housing                                          | Plastic                                                                                |
| Cable                                            | PUR                                                                                    |
| <b>UL File No.</b>                               | NRKH.E181493 & NRKH7.E181493                                                           |

1) Voltage output.

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

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

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

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

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

### Safety-related parameters

|                                     |           |
|-------------------------------------|-----------|
| <b>MTTF<sub>D</sub></b>             | 264 years |
| <b>DC<sub>avg</sub></b>             | 0 %       |
| <b>T<sub>M</sub> (mission time)</b> | 20 years  |

### Certificates

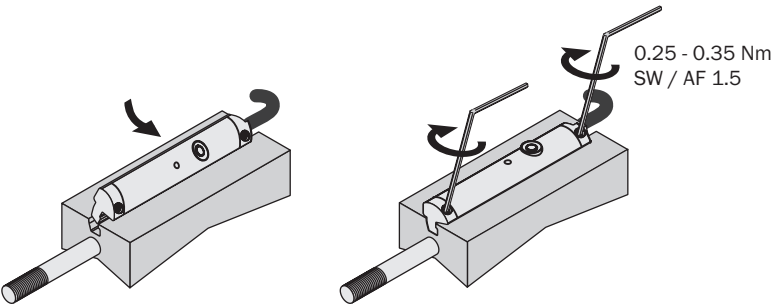
|                                           |   |
|-------------------------------------------|---|
| <b>EU declaration of conformity</b>       | ✓ |
| <b>UK declaration of conformity</b>       | ✓ |
| <b>ACMA declaration of conformity</b>     | ✓ |
| <b>Moroccan declaration of conformity</b> | ✓ |
|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

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

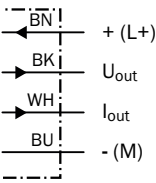
Installation note



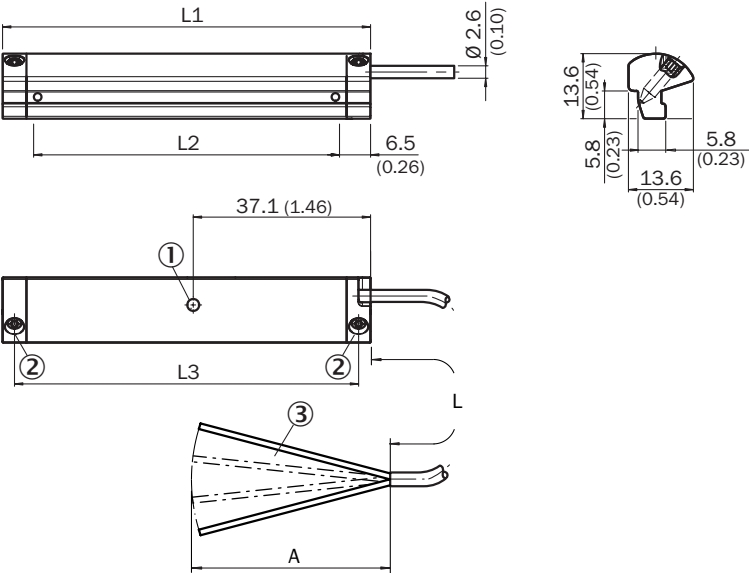
Connection type



Connection diagram Cd-359



Dimensional drawing Cable



|                | Total length<br>(L1) mm | Measuring range<br>(L2) mm | Distance<br>mounting screws<br>(L3) mm |
|----------------|-------------------------|----------------------------|----------------------------------------|
| <b>MPS-32</b>  | 45                      | 32                         | 40                                     |
| <b>MPS-64</b>  | 77                      | 64                         | 72                                     |
| <b>MPS-96</b>  | 109                     | 96                         | 104                                    |
| <b>MPS-128</b> | 141                     | 128                        | 136                                    |
| <b>MPS-160</b> | 173                     | 160                        | 168                                    |
| <b>MPS-192</b> | 205                     | 192                        | 200                                    |
| <b>MPS-224</b> | 237                     | 224                        | 232                                    |
| <b>MPS-256</b> | 269                     | 256                        | 264                                    |

Dimensions in mm (inch)

- ① function indicator
- ② Fixing screw SW 1.5
- ③ Connection

| Part no. | Type         | L    | A        | Number of cores |
|----------|--------------|------|----------|-----------------|
| 1050918  | MPS-032TSNU0 | 2 m  | 61-65 mm | 4               |
| 1050919  | MPS-064TSNU0 | 2 m  | 61-65 mm | 4               |
| 1050920  | MPS-096TSNU0 | 2 m  | 61-65 mm | 4               |
| 1050921  | MPS-128TSNU0 | 2 m  | 61-65 mm | 4               |
| 1050922  | MPS-160TSNU0 | 2 m  | 61-65 mm | 4               |
| 1050923  | MPS-192TSNU0 | 2 m  | 61-65 mm | 4               |
| 1050924  | MPS-224TSNU0 | 2 m  | 61-65 mm | 4               |
| 1050925  | MPS-256TSNU0 | 2 m  | 61-65 mm | 4               |
| 1092678  | MPS-128TSNU0 | 10 m | 61-65 mm | 4               |

### Recommended accessories

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

|                                                                                     | Brief description                                                                                                                                                                                                                                                                                                                                                                                    | Type            | part no. |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------|
| Mounting systems                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                      |                 |          |
|    | <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  |
|    | <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 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 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 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 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> </ul>                                      | BEF-KHZ-RT-25   | 2077678  |

|                                                                                     | 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 32 mm, ambient temperature min 0 °C max 50 °C</li> <li>• <b>Dimensions (W x H x L):</b> 42.9 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-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 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-40 | 2077676  |
|    | <ul style="list-style-type: none"> <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> Label Holder, 2.5 mm to 3.5 mm, 10 pcs.</li> <li>• <b>Material:</b> Plastic</li> <li>• <b>Details:</b> TPU</li> <li>• <b>Packing unit:</b> 10 pieces</li> </ul>                                                                                                                                                                                                                             | LABEL HOLDER  | 2086019  |
|  | <ul style="list-style-type: none"> <li>• <b>Description:</b> Cable clips T-slot, 10 pcs./bag</li> </ul>                                                                                                                                                                                                                                                                                                                                                  | CABLE CLIPS   | 2059322  |

## 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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