

# MZT8-2V6PSAKR0

MZT8 VIA

**SENSORS FOR T-SLOT CYLINDERS** 





## Ordering information

Туре	Part no.
MZT8-2V6PSAKR0	1082456

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



#### 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 <sup>1) 2)</sup>
Adjustment IO-Link	NC or NO Switch-on or switch-off delay (up to 1.6 seconds)
Special features	Visual installation aid/LED indicator (yellow) Power LED (green) Interior housing temperature (via IO-Link) Counter function (via IO-Link)

 $<sup>^{1)}</sup>$  According to EN 60529 (IP 67 / IP 68).

#### Mechanics/electronics

Supply voltage	10 V DC 30 V DC

 $<sup>^{1)}</sup>$  Supply voltage  $U_{B}$  and constant ambient temperature Ta.

<sup>&</sup>lt;sup>2)</sup> According to DIN 40050 (IP 69K).

 $<sup>^{2)}</sup>$  PVC-cable without UL-Certificate.

Voltage drop         \$ 2.2 V           Continuous current Ia         \$ 200 mA           Protection class         III           Response sensitivity, typ.         2.6 mT           Overrun distance, typ.         3 mm           Hysteresis, typ.         0.7 mT           Reverse polarity protection         Yes           Short-circuit protection         Yes           Short-circuit protection         Yes           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           According to EN 60947-5-2         Cable with connector M8, 3-pin, with knurled nuts, drag chain use, 0.5 m           Connection type         Cable with connector M8, 3-pin, with knurled nuts, drag chain use, 0.5 m           Connection type Detail         0.14 mm²           Cable diameter         9 2.9 mm           Bending radius         With fixed installation > 3 x cable diameter           Torsion force         \$ 270 ° / 10 x cable diameter           Torsion cycles         > 2,000,000           Drag chain parameters         \$ 2,000,000           Towersing speed max. 3.3 m/s at 5 m horizontal traversing length Acceleration max. 5 m/s²           Axial		
Continuous current I <sub>a</sub> ≤ 200 mA  Protection class III  Response sensitivity, typ. 2.6 mT  Overrun distance, typ. 3 mm  Hysteresis, typ. 0.7 mT  Reproducibility ≤ 0.1 mT <sup>1)</sup> Reverse polarity protection Yes  Short-circuit protection Yes  Status indicator LED Yes  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  According to EN 60947.5-2  Connection type Cable diameter 29.9 mm  Bending radius With fixed installation > 3 x cable diameter For flexible use > 10 x ca	Power consumption	10 mA, without load
Protection class Response sensitivity, typ.  Overrun distance, typ.  Hysteresis, typ.  Reproducibility  Sol mT  Overse polarity protection  Yes  Short-circuit protection  Yes  Status indicator LED  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	Voltage drop	≤ 2.2 V
Response sensitivity, typ.  Overrun distance, typ.  Hysteresis, typ.  Reproducibility  Short-circuit protection  Short-circuit protection  Yes  Yes  Yes  Yes  Power-up pulse protection  Ambient operating temperature  Shock and vibration resistance  EMC  Connection type  Connection type  Connection type  Cable diametr  Bending radius  Torsion force  Torsion force  Torsion cycles  Drag chain parameters  Cable outlet  Material  Material  Material  Pissitic. PA12  Cable  O.7 mT  3 mm  0.7 mT  3 mm  0.7 mT  4 mm  4 co.1 mT  3 mm  0.7 mT  4 mm  4 co.1 mT  3 mm  9 0.7 mT  4 mm  9 0.7 mT  9 0.1 mT  9 0.1 mT  9 0.2 mT  9 0.2 mT  9 0.2 mT  1 may 10 m. 55 Hz, 1 mm  According to EN 60947-5-2  Cable diameter  8 0.14 mm  9 0.2 mm  With fixed installation > 3 x cable diameter  For flexible use > 10 x cable diameter  For flexible use > 10 x cable diameter  1 Traversing speed max. 3.3 m/s at 5 m horizontal traversing length Acceleration max. 5 m/s²  Axial	Continuous current I <sub>a</sub>	≤ 200 mA
Overrun distance, typ.  Hysteresis, typ.  Reproducibility  \$ 0.1 mT \  Newerse polarity protection  Yes  Short-circuit protection  Yes  Yes  Yes  Power-up pulse protection  Ambient operating temperature  Shock and vibration resistance  EMC  Connection type  Connection type  Connection type  Connection type  Bending radius  Torsion force  Torsion force  Torsion cycles  Drag chain parameters  Cable outlet  Material  Housing  Plastic, PA12  Cable  20.1 mT \  1)  20.1 mT \  1)  20.1 mT \  20.1 mT \  1)  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	Protection class	III
Hysteresis, typ.  Reproducibility  \$\frac{9.1 \text{ mT}^{1}}{2}\$  Reverse polarity protection  Yes  Short-circuit protection  Yes  Status indicator LED  Power-up pulse protection  Ambient operating temperature  -30 °C +80 °C  Shock and vibration resistance  30 g, 11 ms / 10 55 Hz, 1 mm  According to EN 60947-5-2  Connection type  Connection type  Conductor cross section  Cable diameter  Bending radius  Conductor cross section  Cable diameter  Bending radius  Torsion force  Torsion cycles  Drag chain parameters  Drag chain parameters  Cable outlet  Material  Housing  Plastic, PA12  PUR  Pure  Power-up pulse protection  Yes  Ves  Assia  Ves  4-20 mT  Ves  Assia  1 my / 10 55 Hz, 1 mm  According to EN 60947-5-2  Cable with connector M8, 3-pin, with knurled nuts, drag chain use, 0.5 m  Cable with connector M8, 3-pin, with knurled nuts, drag chain use, 0.5 m  Cable with connector M8, 3-pin, with knurled nuts, drag chain use, 0.5 m  Cable with connector M8, 3-pin, with knurled nuts, drag chain use, 0.5 m  Cable with connector M8, 3-pin, with knurled nuts, drag chain use, 0.5 m  Cable diameter  \$\frac{2}{2} \text{ on } \text{ 0.14 mm}^2  \$\frac{2}{2} \text{ 0.90} \text{ 0.00}  Torsion force  \$\frac{2}{2} \text{ 0.00} \text{ 0.00}  \$\frac{2}{2} \text{ 0.90} \text{ 0.00}  \$\frac{2}{2} \text{ 0.00} \te	Response sensitivity, typ.	2.6 mT
Reproducibility  Reverse polarity protection  Yes  Short-circuit protection  Yes  Status indicator LED  Yes  Power-up pulse protection  Ambient operating temperature  Shock and vibration resistance  EMC  Connection type  Connection type  Connection type  Conductor cross section  Cable diameter  Bending radius  With fixed installation > 3 x cable diameter For flexible use > 10 x cable diameter  Torsion force  Torsion cycles  Drag chain parameters  Cable outlet  Material  Housing  Plastic, PA12  Cable  Yes  Yes  Yes  Yes  Asa  Ves  Ves  Aso  Cable or Hes  Yes  Yes  Cable or Hes  Yes  Cable or Hes  Yes  Cable or Hes  Yes  Yes  Yes  Yes  Yes  Yes  Yes	Overrun distance, typ.	3 mm
Reverse polarity protection Short-circuit protection Yes  Status indicator LED Yes  Power-up pulse protection Ambient operating temperature -30 °C +80 °C Shock and vibration resistance Shock and vibration resistance EMC According to EN 60947-5-2 Connection type Connection type Detail  Conductor cross section Cable diameter Bending radius For flexible use > 10 x cable diameter For flexible use > 10 x cable diameter Torsion cycles Drag chain cycles Drag chain parameters Cable outlet  Housing Material  Housing Plastic, PA12 Cable  Yes  According to EN ©C Cable According to EN 60947-5-2 Cable with connector M8, 3-pin, with knurled nuts, drag chain use, 0.5 m  According to EN 60947-5-2 Cable with connector M8, 3-pin, with knurled nuts, drag chain use, 0.5 m  According to EN 60947-5-2 Cable diameter  9 2.9 mm  9 2.9 mm  1.1 m²  9 2.9 mm  1.2 m²  1.3 m²  1.4 m²  2.2 000,000  1.4 m²  2.2 000,000  2.2 000,000  1.5 m²  2.2 000,000  2.2 000,000  1.5 m²  2.2 000,000  2.2 000,000  2.2 000,000  3.3 m²s at 5 m horizontal traversing length Acceleration max. 5 m/s²  3.5 m²  3.5 m²  3.6 m²  3.7 m²	Hysteresis, typ.	0.7 mT
Short-circuit protection  Status indicator LED  Power-up pulse protection  Ambient operating temperature  Shock and vibration resistance  EMC  Connection type  Connection type  Conductor cross section  Cable diameter  Bending radius  Torsion force Torsion cycles Drag chain parameters  Cable outlet  Material  Material  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	Reproducibility	$\leq 0.1$ mT $^{1)}$
Status indicator LED  Yes  Power-up pulse protection  Ambient operating temperature  Shock and vibration resistance  EMC  Connection type  Connection type  Connection type Detail  Conductor cross section Cable diameter Bending radius  Consider force  Torsion force  Torsion cycles Drag chain parameters  Cable outlet  Cable outlet  Material  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	Reverse polarity protection	Yes
Power-up pulse protection  Ambient operating temperature  Shock and vibration resistance  30 g, 11 ms / 10 55 Hz, 1 mm  According to EN 60947-5-2  Connection type  Connection type Detail  Conductor cross section Cable diameter Bending radius Bending radius  Torsion force Torsion cycles  Drag chain parameters  Cable outlet  Axial  Material  Pastic, PA12  Page 20  Page Axial  According to EN 60947-5-2  Cable vith connector M8, 3-pin, with knurled nuts, drag chain use, 0.5 m  O.14 mm  9 2.9 mm  With fixed installation > 3 x cable diameter For flexible use > 10 x cable diameter For flexible use >	Short-circuit protection	Yes
Ambient operating temperature  Shock and vibration resistance  EMC  Connection type  Connection type Detail  Conductor cross section Cable diameter Bending radius For flexible use > 10 x cable diameter Torsion cycles Drag chain cycles Drag chain parameters Cable outlet  Material  According to EN 60947-5-2  Cable with connector M8, 3-pin, with knurled nuts, drag chain use, 0.5 m  0.14 mm² 0 2.9 mm With fixed installation > 3 x cable diameter For flexible use > 10 x cable diameter For flexible use > 10 x cable diameter  2 270° / 10 cm 2 2,000,000 2 2,000,000 2 2,000,000 Traversing speed max. 3.3 m/s at 5 m horizontal traversing length Acceleration max. 5 m/s²  Axial  Material  Housing Plastic, PA12 PUR ²)	Status indicator LED	Yes
Shock and vibration resistance  EMC  According to EN 60947-5-2  Cable with connector M8, 3-pin, with knurled nuts, drag chain use, 0.5 m  Connection type Detail  Conductor cross section Cable diameter Bending radius With fixed installation > 3 x cable diameter For flexible use > 10 x cable diameter For flexible use > 10 x cable diameter  Torsion force 2,000,000  Drag chain cycles Drag chain parameters  Cable outlet  Material  Housing Cable Plastic, PA12 PUR 2)	Power-up pulse protection	Yes
EMC Connection type Cable with connector M8, 3-pin, with knurled nuts, drag chain use, 0.5 m  Connection type Detail  Conductor cross section Cable diameter Bending radius With fixed installation > 3 x cable diameter For flexible use > 10 x cable diameter For flexible use > 10 x cable diameter Torsion force ± 270° / 10 cm Torsion cycles > 2,000,000  Drag chain parameters Traversing speed max. 3.3 m/s at 5 m horizontal traversing length Acceleration max. 5 m/s²  Axial  Material  Housing Plastic, PA12 PUR <sup>2</sup>	Ambient operating temperature	-30 °C +80 °C
Connection type Detail  Conductor cross section Cable diameter Bending radius Torsion force Torsion cycles Drag chain parameters Drag chain parameters Cable outlet  Material  Cable with connector M8, 3-pin, with knurled nuts, drag chain use, 0.5 m  0.14 mm² 0 2.9 mm With fixed installation > 3 x cable diameter For flexible use > 10 x cable diameter For flexible use > 10 x cable diameter  ± 270° / 10 cm > 2,000,000  > 2,000,000  Traversing speed max. 3.3 m/s at 5 m horizontal traversing length Acceleration max. 5 m/s²  Axial  Material  Housing Cable Plastic, PA12 PUR 2)	Shock and vibration resistance	30 g, 11 ms / 10 55 Hz, 1 mm
Connection type Detail  Conductor cross section Cable diameter Bending radius Torsion force Torsion cycles Drag chain parameters  Cable outlet  Material  Conductor cross section 0.14 mm² Ø 2.9 mm  With fixed installation > 3 x cable diameter For flexible use > 10 x cable diameter ± 270° / 10 cm 2,000,000  > 2,000,000  Traversing speed max. 3.3 m/s at 5 m horizontal traversing length Acceleration max. 5 m/s²  Axial  Plastic, PA12 PUR ²)	EMC	According to EN 60947-5-2
Conductor cross section Cable diameter  Bending radius  With fixed installation > 3 x cable diameter For flexible use > 10 x cable diameter  Torsion force ± 270° / 10 cm  Torsion cycles Drag chain parameters  Drag chain parameters  Cable outlet  Housing Cable  Plastic, PA12  PUR 2)	Connection type	Cable with connector M8, 3-pin, with knurled nuts, drag chain use, 0.5 m
Cable diameter  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/s²  Axial  Material  Housing Plastic, PA12  Cable PUR 2)	Connection type Detail	
Bending radius  With fixed installation > 3 x cable diameter  For flexible use > 10 x cable diameter  1	Conductor cross section	0.14 mm <sup>2</sup>
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/s²  Cable outlet Housing Plastic, PA12  Cable 2  Cable 2  PUR 2)	Cable diameter	Ø 2.9 mm
Torsion cycles > 2,000,000  Drag chain parameters Traversing speed max. 3.3 m/s at 5 m horizontal traversing length Acceleration max. 5 m/s²  Cable outlet Housing Plastic, PA12  Cable PUR 2)	Bending radius	
Drag chain cycles Drag chain parameters Traversing speed max. 3.3 m/s at 5 m horizontal traversing length Acceleration max. 5 m/s²  Axial  Material  Housing Cable PUR 2)	Torsion force	± 270° / 10 cm
Drag chain parameters Traversing speed max. 3.3 m/s at 5 m horizontal traversing length Acceleration max. 5 m/s²  Axial  Material  Housing Cable PUR 2)	Torsion cycles	> 2,000,000
Acceleration max. 5 m/s²  Cable outlet  Material  Housing Cable  Cable  PUR 2)	Drag chain cycles	> 2,000,000
Material  Housing Plastic, PA12  Cable PUR 2)	Drag chain parameters	
Housing Plastic, PA12  Cable PUR 2)	Cable outlet	Axial
Cable PUR <sup>2)</sup>	Material	
	Housing	Plastic, PA12
<b>UL File No.</b> NRKH.E181493 & NRKH7.E181493	Cable	PUR <sup>2)</sup>
	UL File No.	NRKH.E181493 & NRKH7.E181493

 $<sup>^{1)}\,\</sup>mbox{Supply}$  voltage  $\mbox{U}_{\mbox{\footnotesize B}}$  and constant ambient temperature Ta.

## Safety-related parameters

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

## Communication interface

Communication interface	IO-Link V1.0
Communication Interface detail	COM2 (38,4 kBaud)
Cycle time	10.4 ms
Process data length	8 Bit

<sup>2)</sup> PVC-cable without UL-Certificate.

# MZT8-2V6PSAKR0 | MZT8 VIA

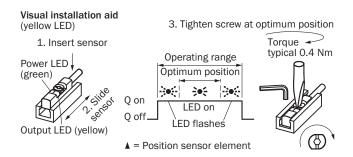
SENSORS FOR T-SLOT CYLINDERS

Process data structure	Bit 0 = switching signal $Q_{L1}$ Bit 1 = switching signal $Q_{L2}$ Bit 2 7 = empty
VendorID	26
DeviceID HEX	0x80015D
DeviceID DEC	8388957

#### 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



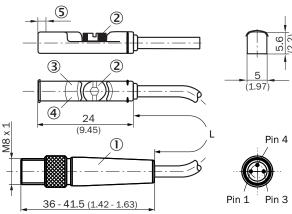
# Connection diagram

Cd-401



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

Cable with connector M8, with knurled nuts



- ① Connection
- ② Fixing screw SW 2.0
- ③ Visual installation aid/LED indicator (yellow)
- 4 Power LED (green)
- ⑤ Sensor element position; short overrun distance (3 mm): 2.25 mm, long overrun distance (9 mm): 1.5 mm

Part no.	Туре	L	Number of cores
1083800	MZT8-2V6PSAKRD	300 mm	3
1082456	MZT8-2V6PSAKR0	500 mm	3

#### Recommended accessories

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

	Brief description	Туре	Part no.
Brackets for c	ylinder sensors		
	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

	Brief description	Туре	Part no.
	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 $^{\circ}$ C max 50 $^{\circ}$ 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
	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
TILL	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
4	Mounting bracket for mounting on SMC rails CDQ2 (T-slot), Aluminum, without mounting hardware	BEF-KHZ-TT2	2046440
0	Mounting bracket for mounting on SMC rails ECDQ2 (T-slot), Aluminum, without mounting hardware	BEF-KHZ-TT1	2046439
Device protection (mechanical)			
The same	Protective adapter, die-cast zinc, mounting hardware included	BEF-SG-MRZT	2077201

#### Recommended services

Additional services  $\rightarrow$  www.sick.com/MZT8\_VIA

	Туре	Part no.
Function Block Factory		
<ul> <li>Description: The Function Block Factory supports common programmable logic controllers (PLCs) from various manufacturers, such as Siemens, Beckhoff, Rockwell Automation and B&amp;R. More information on the FBF can be found <a href="https://fbf.cloud.sick.com" target="_blank">here</a>.</li> <li>Note: You can configure your function block at <a href="https://fbf.cloud.sick.com" target="_blank">Function Block Factory.</a> As a login please use your SICK ID.</li> </ul>	Function Block Factory	On request

# 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."

# **WORLDWIDE PRESENCE:**

Contacts and other locations -www.sick.com

