



# MZT8-2V8-N-KQ0

MZT8 ATEX

CYLINDER SENSORS

**SICK**  
Sensor Intelligence.



### Ordering information

Type	part no.
MZT8-2V8-N-KQ0	1070467

Other models and accessories → [www.sick.com/MZT8\\_ATEX](http://www.sick.com/MZT8_ATEX)



### Detailed technical data

#### Features

<b>Cylinder type</b>	T-slot
<b>Cylinder types with adapter</b>	Profile cylinder Tie rod cylinder Round body cylinder Dovetail groove cylinder SMC rail CDQ2 SMC rail ECDQ2
<b>Housing length</b>	24 mm
<b>Switching output</b>	NAMUR
<b>Output characteristic</b>	Control current depending on switching state according to NAMUR EN 60947-5-6
<b>Switching frequency</b>	1,000 Hz
<b>Electrical wiring</b>	DC 2-wire
<b>Enclosure rating</b>	IP67 <sup>1)</sup>

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

#### Mechanics/electronics

<b>Ex area category</b>	1G, 1D
<b>Device labeling</b>	II 1G Ex ia IIC T4 Ga, II 1D Ex ia IIIC T <sub>200</sub> 135 °C Da
<b>Response sensitivity, typ.</b>	2.8 mT
<b>Overrun distance, typ.</b>	9 mm
<b>Hysteresis, typ.</b>	≤ 0.5 mT
<b>Reproducibility</b>	≤ 0.1 mT <sup>1)</sup>

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

<sup>2)</sup> For connection to a separately certified intrinsically safe circuit only.

<b>Reverse polarity protection</b>	Yes
<b>Short-circuit protection</b>	Yes
<b>Status indicator LED</b>	Yes
<b>Teach-In</b>	No
<b>Power-up pulse protection</b>	Yes
<b>Ambient operating temperature</b>	-25 °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 M12, 2-pin, with knurled nut, drag chain use, 0.3 m
<b>Connection type Detail</b>	
Conductor cross section	0.12 mm²
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/s²
Cable outlet	Axial
<b>Material</b>	
Housing	Plastic, PA12
Cable	PUR
<b>UL File No.</b>	E181493
<b>EC-Type examination certificate</b>	TÜV 14 ATEX 143125
<b>UK type examination certificate</b>	UL22UKEX2384
<b>Certificate (IECEX)</b>	IECEX TUN 14.0038
<b>Input voltage U<sub>i</sub> max.</b>	20 V <sup>2)</sup>
<b>Input power P<sub>i</sub> max.</b>	100 mW <sup>2)</sup>
<b>Input current I<sub>i</sub> max.</b>	60 mA <sup>2)</sup>
<b>Internal capacitance C<sub>i</sub> max.</b>	130 nF <sup>2)</sup>
<b>Internal inductance L<sub>i</sub> max.</b>	30 µH <sup>2)</sup>
<b>Nominal voltage</b>	8.2 V DC

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

<sup>2)</sup> For connection to a separately certified intrinsically safe circuit only.

## Safety-related parameters

<b>MTTF<sub>D</sub></b>	2,874 years
<b>DC<sub>avg</sub></b>	0 %
<b>T<sub>M</sub> (mission time)</b>	20 years

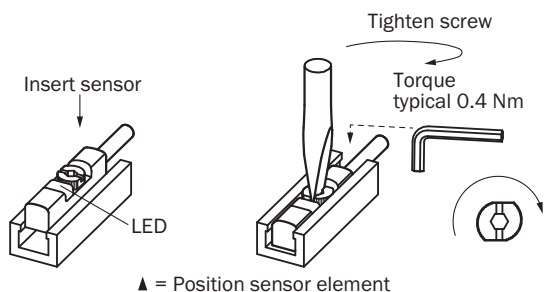
### Certificates

<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>ATEX certificate</b>	✓
<b>IECEx certificate</b>	✓

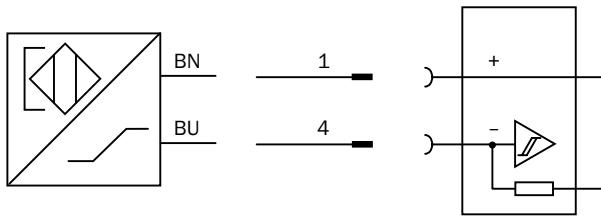
### Classifications

<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
<b>ETIM 5.0</b>	EC002544
<b>ETIM 6.0</b>	EC002544
<b>ETIM 7.0</b>	EC002544
<b>ETIM 8.0</b>	EC002544
<b>UNSPSC 16.0901</b>	39122230

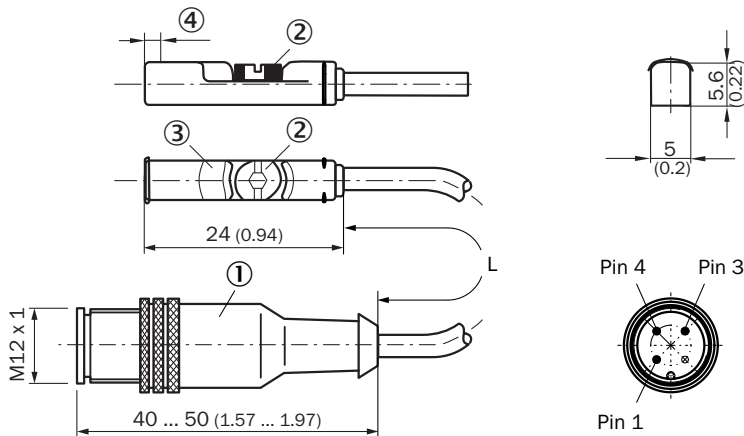
### Installation note



## Connection diagram Cd-306



## Dimensional drawing Cable with M12 male connector



Dimensions in mm (inch)

- ① Connection
- ② Fixing screw SW 2.0
- ③ Display LED
- ④ sensor element position = long overrun distance (9 mm): 1.6 mm

Part no.	Type	L	Number of cores
1070467	MZT8-2V8-N-KQ0	300 mm	2

### Recommended accessories

Other models and accessories → [www.sick.com/MZT8\\_ATEX](http://www.sick.com/MZT8_ATEX)

	Brief description	Type	part no.
Mounting systems			
	<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 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 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 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 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-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 16 mm, ambient temperature min 0 °C max 50 °C</li> <li><b>Dimensions (W x H x L):</b> 26.6 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-16	2077680
	<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 mm</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-20	2077679

	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 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> <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 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-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 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-63	2077674
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
integration modules and adapters			
	<ul style="list-style-type: none"> <li>• <b>Description:</b> NAMUR isolating amplifier, Cable fault detection, Switching outputs: 2 NO relay (1 per channel), Supply voltage: 24 V ... 230 V, Voltage type: AC/DC</li> </ul>	EN2-2EX1	6041096
	<ul style="list-style-type: none"> <li>• <b>Description:</b> NAMUR isolating amplifier, Cable fault detection, Switching outputs: 2 NO relay (1 per channel), Supply voltage: 19,2 V ... 30 V, Voltage type: DC</li> </ul>	EN2-2EX3	6041095

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 3-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 3-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A13-020UB1XLEAX	2095604
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 3-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 3-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A13-050UB1XLEAX	2095605
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 3-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 2 m, 3-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG2A13-020UB1XLEAX	2095752
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 3-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 5 m, 3-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG2A13-050UB1XLEAX	2095753
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 3-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 0.6 m, 3-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A13-C60UB1XLEAX	2145767
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 3-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 3 m, 3-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A13-030UB1XLEAX	2145769
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 3-pin, straight, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 1 m, 3-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YF2A13-010UB1XLEAX	2145768
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 3-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 0.6 m, 3-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG2A13-C60UB1XLEAX	2145770
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 3-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 1 m, 3-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG2A13-010UB1XLEAX	2145771
	<ul style="list-style-type: none"> <li><b>Connection type head A:</b> Female connector, M12, 3-pin, angled, A-coded</li> <li><b>Connection type head B:</b> Flying leads</li> <li><b>Signal type:</b> Sensor/actuator cable</li> <li><b>Cable:</b> 3 m, 3-wire, PUR, halogen-free</li> <li><b>Description:</b> Sensor/actuator cable, unshielded</li> <li><b>Application:</b> Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation</li> </ul>	YG2A13-030UB1XLEAX	2145772



## 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](http://www.sick.com)