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DATA SHEET

MZCS-1Z8NS-KR0

MZCS
Cylinder sensors

SICK

Sensor Intelligence



CYLINDER SENSORS

MZCS-1Z8NS-KR0

ORDERING INFORMATION

Type	part no.
MZCS-1Z8NS-KR0	1142928

Further device versions and accessories at www.sick.com/MZCS



DETAILED TECHNICAL DATA

FEATURES

Cylinder type	C-slot
Cylinder types with adapter	SMC rail CDQ2 SMC rail ECDQ2 Round body cylinder Profile cylinders and tie-rod cylinders
Housing length	15 mm
Switching output	NPN
Switching frequency	1,000 Hz
Output function	NO
Electrical wiring	DC 3-wire
Enclosure rating	IP67

MECHANICS/ELECTRONICS

Supply voltage	5 V DC ... 30 V DC
Power consumption	≤ 5 mA, without load
Voltage drop	≤ 2.5 V
Continuous current I _a	≤ 100 mA
Protection class	III
Response sensitivity, typ.	1.8 mT
Overrun distance, typ.	3 mm ¹⁾
Hysteresis, typ.	0.2 mT
Reproducibility	≤ 0.1 mT ²⁾
Reverse polarity protection	Yes

¹⁾ Distance covered by the encoder magnet while the sensor outputs a switching signal.

²⁾ Supply voltage U_a and constant ambient temperature T_a.

³⁾ Time-limited. Excessive heating can cause the sensor to fail.

Short-circuit protection	Yes ³⁾																
Status indicator LED	Yes																
Teach-in	No																
Power-up pulse protection	Yes																
Ambient operating temperature	-30 °C ... +70 °C																
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm																
EMC	According to EN 60947-5-2																
Connection type	Cable with plug M8, 3-pin, with knurled nut, drag chain use, 0.5 m																
Connection type Detail	<table> <tr> <td>Conductor cross section</td><td>0.15 mm²</td></tr> <tr> <td>Cable diameter</td><td>Ø 2.7 mm</td></tr> <tr> <td>Bending radius</td><td>With fixed installation > 2 x cable diameter For flexible use > 5 x cable diameter</td></tr> <tr> <td>Torsion force</td><td>± 270° / 0.1 m</td></tr> <tr> <td>Torsion cycles</td><td>300,000</td></tr> <tr> <td>Drag chain cycles</td><td>5,000,000</td></tr> <tr> <td>Drag chain parameters</td><td>Traversing speed max. 3 m/s Acceleration max. 10 m/s² Bending cycles in the drag chain min. 5 million</td></tr> <tr> <td>Cable outlet</td><td>Axial</td></tr> </table>	Conductor cross section	0.15 mm ²	Cable diameter	Ø 2.7 mm	Bending radius	With fixed installation > 2 x cable diameter For flexible use > 5 x cable diameter	Torsion force	± 270° / 0.1 m	Torsion cycles	300,000	Drag chain cycles	5,000,000	Drag chain parameters	Traversing speed max. 3 m/s Acceleration max. 10 m/s ² Bending cycles in the drag chain min. 5 million	Cable outlet	Axial
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UL File No.	NRKH.E181493 & NRKH7.E181493																

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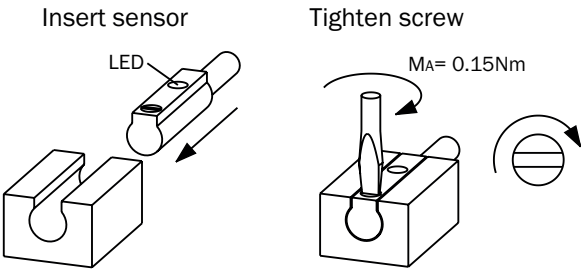
SAFETY-RELATED PARAMETERS

MTTF _D	3,465 years
DC _{avg}	0 %
T _M (mission time)	20 years

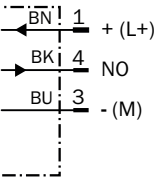
CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) ex-empt	✓
cULus certificate	✓

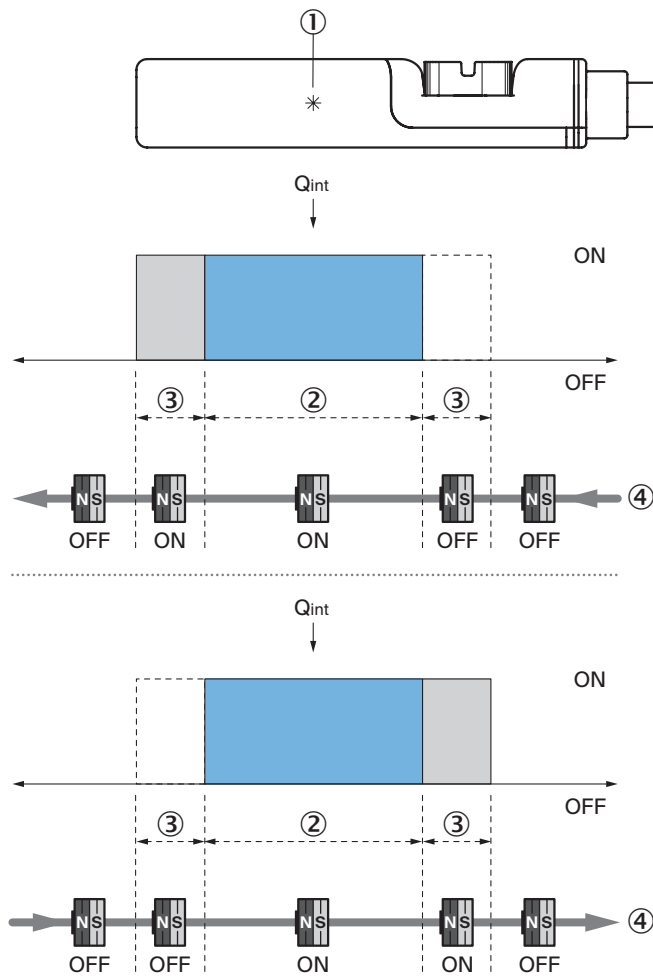
INSTALLATION NOTE



CONNECTION DIAGRAM CD-002



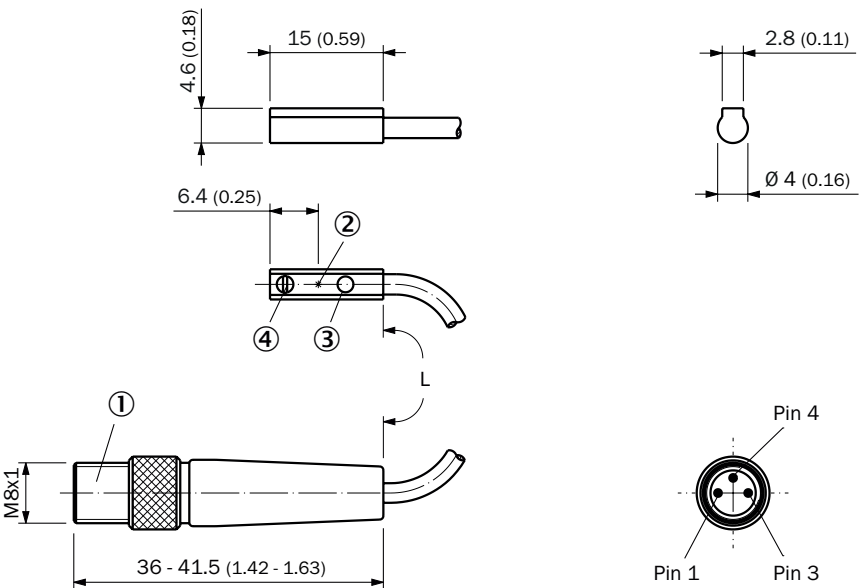
FUNCTIONAL PRINCIPLE OVERRUN DISTANCE



Note: Sensor housing may differ; representation corresponds to "NO contact" output function; overrun distance = switching point width + hysteresis

- ① Position sensor element
- ② Width of the switching point
- ③ Hysteresis
- ④ Direction of movement of the magnet

DIMENSIONAL DRAWING CABLE WITH PLUG M8, WITH KNURLED NUT



- Dimensions in mm (inch)
- ① Connection
 - ② Center of sensor element
 - ③ Display LED
 - ④ Fixing screw

Part no.	Type	L	Number of cores
1142924	MZCS-1Z8PS-KR0	0.5 m	3
1142928	MZCS-1Z8NS-KR0	0.5 m	3
1142932	MZCS-1Z8DS-KR0	0.5 m	2

Further information as well as suitable accessories, example applications and downloads such as CAD di-
mensional models, operating instructions and software can be found at www.sick.com/1142928



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SICK AT A GLANCE

SICK is a leading global technology company for intelligent sensors and integrated solutions in industrial automation. Our technologies set benchmarks, making your industrial processes more efficient, safer and more sustainable – both in logistics and manufacturing operations.

SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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