



MZC1-4V3NS-KP0

MZC1

CYLINDER SENSORS

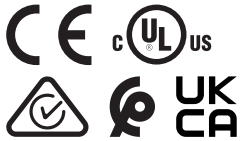
SICK
Sensor Intelligence.



Ordering information

Type	part no.
MZC1-4V3NS-KP0	1059757

Other models and accessories → www.sick.com/MZC1



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	23.7 mm
Switching output	NPN
Switching frequency	1,000 Hz
Output function	NO
Electrical wiring	DC 3-wire
Enclosure rating	IP68

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC
Power consumption	8 mA, without load
Voltage drop	≤ 2.5 V
Continuous current I_a	≤ 100 mA
Protection class	III
Response sensitivity, typ.	4.25 mT
Overrun distance, typ.	7 mm ¹⁾
Hysteresis, typ.	≤ 0.8 mT
Reproducibility	≤ 0.1 mT ²⁾
Reverse polarity protection	Yes
Short-circuit protection	Yes
Status indicator LED	Yes
Teach-in	No

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

²⁾ Supply voltage U_B and constant ambient temperature T_a.

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
EMC	According to EN 60947-5-2
Connection type	Cable with connector M8, 3-pin, drag chain use, 0.3 m
Connection type Detail	
Conductor cross section	0.09 mm ²
Cable diameter	Ø 2.2 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
Material	
Housing	Plastic
Cable	PUR
UL File No.	NRKH.E181493 & NRKH7.E181493

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

²⁾ Supply voltage U_B and constant ambient temperature T_a .

Safety-related parameters

MTTF_D	1,428 years
DC_{avg}	0 %
T_M (mission time)	20 years

Certificates

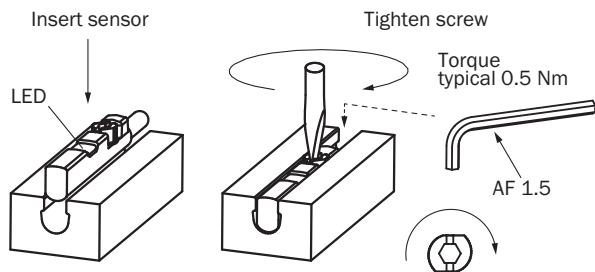
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓

Classifications

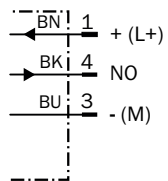
ECLASS 5.0	27270104
ECLASS 5.1.4	27270104
ECLASS 6.0	27270104
ECLASS 6.2	27270104
ECLASS 7.0	27270104
ECLASS 8.0	27270104

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 diagram Cd-002



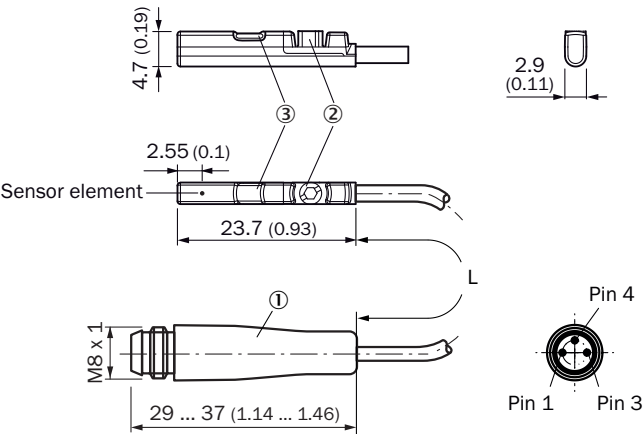
Functional principle Overrun distance



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 connector M8



Dimensions in mm (inch)

- ① Connection
- ② Fixing screw SW 1.5
- ③ Display LED

Part no.	Type	L	Number of cores
1059735	MZC1-2V2PS-KP0	0.3 m	3
1059744	MZC1-2V2NS-KP0	0.3 m	3
1059752	MZC1-4V3PS-KP0	0.3 m	3
1059757	MZC1-4V3NS-KP0	0.3 m	3
1087247	MZC1-2V2DS-KP0	0.3 m	2

Recommended accessories

Other models and accessories → www.sick.com/MZC1

	Brief description	Type	part no.
Mounting systems			
	Description: Mounting bracket on round body cylinder with piston diameter of 12 mm, ambient temperature min 0 °C max 50 °C Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: C-slot	BEF-KHZ-RC-12	2077673
	Description: Mounting bracket on round body cylinder with piston diameter of 16 mm, ambient temperature min 0 °C max 50 °C Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: C-slot	BEF-KHZ-RC-16	2077672
	Description: Mounting bracket on round body cylinder with piston diameter of 20 mm, ambient temperature min 0 °C max 50 °C Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: C-slot	BEF-KHZ-RC-20	2077671
	Description: Mounting bracket on round body cylinder with piston diameter of 25 mm, ambient temperature min 0 °C max 50 °C Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: C-slot	BEF-KHZ-RC-25	2077670
	Description: Mounting bracket on round body cylinder with piston diameter of 32 mm, ambient temperature min 0 °C max 50 °C Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: C-slot	BEF-KHZ-RC-32	2077669
	Description: Mounting bracket on round body cylinder with piston diameter of 40 mm, ambient temperature min 0 °C max 50 °C Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: C-slot	BEF-KHZ-RC-40	2077668
	Description: Mounting bracket on round body cylinder with piston diameter of 50 mm, ambient temperature min 0 °C max 50 °C Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: C-slot	BEF-KHZ-RC-50	2077667
	Description: Mounting bracket on round body cylinder with piston diameter of 63 mm, ambient temperature min 0 °C max 50 °C Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: C-slot	BEF-KHZ-RC-63	2077666
	Description: Mounting bracket on round body cylinder with piston diameter of 1 mm ... 25 mm, ambient temperature min -30 °C max 80 °C Material: Stainless steel, Aluminum Details: Stainless steel, Aluminum Packing unit: 1 piece Suitable for: C-slot	BEF-KHZ-RC1-25	2077685
	Description: Mounting bracket on round body cylinder with piston diameter of 1 mm ... 130 mm, ambient temperature min -30 °C max 80 °C Material: Stainless steel, Aluminum Details: Stainless steel, Aluminum Packing unit: 1 piece Suitable for: C-slot	BEF-KHZ-RC1-130	2077686
	Description: Mounting bracket for integrated profile cylinder/tie-rod cylinder Material: Zinc diecast Details: Zinc diecast Items supplied: Mounting hardware included	BEF-KHZ-PC1	2076170

	Brief description	Type	part no.
connectors and cables			
	Description: Unshielded Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection systems: Screw-type terminals Permitted cross-section: 0.14 mm² ... 0.5 mm²	DOS-0803-G	7902077
	Description: Unshielded Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection systems: Solder connection Permitted cross-section: ≤ 0.25 mm²	DOS-0803-W	7902078
	Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 3-wire, PVC Description: Sensor/actuator cable, unshielded Application: Untaminated zones, Zones with chemicals	YF8U13-020VA1XLEAX	2095860
	Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 3-wire, PVC Description: Sensor/actuator cable, unshielded Application: Untaminated zones, Zones with chemicals	YF8U13-050VA1XLEAX	2095884
	Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 3-wire, PVC Description: Sensor/actuator cable, unshielded Application: Untaminated zones, Zones with chemicals	YG8U13-020VA1XLEAX	2096165
	Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 3-wire, PVC Description: Sensor/actuator cable, unshielded Application: Untaminated zones, Zones with chemicals	YG8U13-050VA1XLEAX	2096166
	Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 3-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation	YG8U13-020UA1XLEAX	2094794
	Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 3-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation	YG8U13-050UA1XLEAX	2095586
	Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 3-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation	YG8U13-C60UA1XLEAX	2145889
	Connection type head A: Female connector, M8, 3-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 3 m, 3-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation	YG8U13-030UA1XLEAX	2145891
	Connection type head A: Female connector, M8, 3-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 3-wire, PVC Description: Sensor/actuator cable, unshielded Application: Untaminated zones, Zones with chemicals	YF8U13-C60VA1XLEAX	2146368

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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