



## MZC1-4V3PS-KQ0

### MZC1

**CYLINDER SENSORS**

**SICK**  
Sensor Intelligence.



## Ordering information

Type	part no.
MZC1-4V3PS-KQ0	1059754

Other models and accessories → [www.sick.com/MZC1](http://www.sick.com/MZC1)

## Detailed technical data

## Features

<b>Cylinder type</b>	C-slot
<b>Cylinder types with adapter</b>	SMC rail CDQ2 SMC rail ECDQ2 Round body cylinder Profile cylinders and tie-rod cylinders
<b>Housing length</b>	23.7 mm
<b>Switching output</b>	PNP
<b>Switching frequency</b>	1,000 Hz
<b>Output function</b>	NO
<b>Electrical wiring</b>	DC 3-wire
<b>Enclosure rating</b>	IP68

## Mechanics/electronics

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

<sup>1)</sup> Supply voltage  $U_B$  and constant ambient temperature  $T_a$ .

<b>Power-up pulse protection</b>	Yes
<b>Ambient operating temperature</b>	-30 °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, 3-pin, drag chain use, 0.3 m
<b>Connection type Detail</b>	
Conductor cross section	0.09 mm <sup>2</sup>
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 <sup>2</sup> Bending cycles in the drag chain min. 5 million
Cable outlet	Axial
<b>Material</b>	
Housing	Plastic
Cable	PUR
<b>UL File No.</b>	NRKH.E181493 & NRKH7.E181493

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

#### Safety-related parameters

<b>MTTF<sub>D</sub></b>	1,428 years
<b>DC<sub>avg</sub></b>	0 %
<b>T<sub>M</sub> (mission time)</b>	20 years

#### Certificates

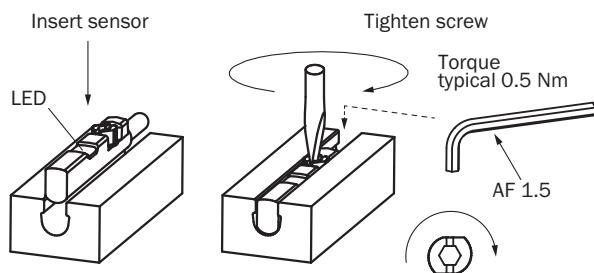
<b>EU declaration of conformity</b>	✓
<b>UK declaration of conformity</b>	✓
<b>ACMA declaration of conformity</b>	✓
<b>Moroccan declaration of conformity</b>	✓
<b>China-RoHS</b>	✓
<b>cULus certificate</b>	✓

#### Classifications

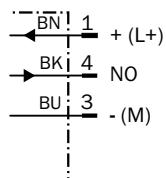
<b>ECLASS 5.0</b>	27270104
<b>ECLASS 5.1.4</b>	27270104
<b>ECLASS 6.0</b>	27270104
<b>ECLASS 6.2</b>	27270104
<b>ECLASS 7.0</b>	27270104
<b>ECLASS 8.0</b>	27270104
<b>ECLASS 8.1</b>	27270104

<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

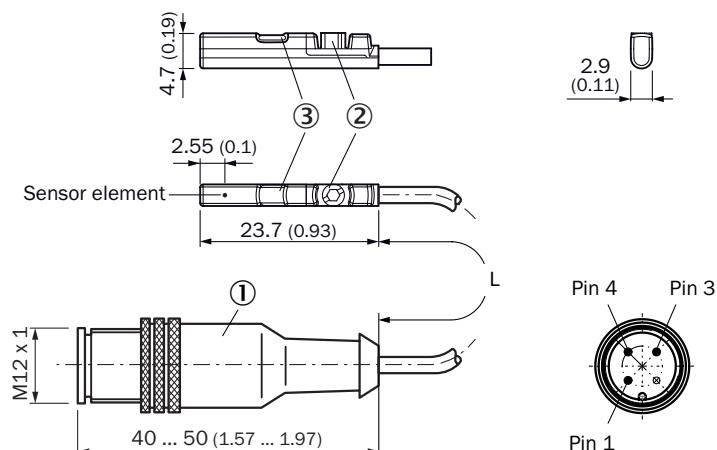
### Installation note



### Connection diagram Cd-002



### Dimensional drawing Cable with M12 male connector



Dimensions in mm (inch)

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

Part no.	Type	L	Number of cores
1059736	MZC1-2V2PS-KQ0	0.3 m	3
1059754	MZC1-4V3PS-KQ0	0.3 m	3
1077026	MZC1-2V2NS-KQ0	0.3 m	3
1083652	MZC1-2V2PS-KQD	1 m	3

## Recommended accessories

Other models and accessories → [www.sick.com/MZC1](http://www.sick.com/MZC1)

	Brief description	Type	part no.
Mounting systems			
	<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>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> C-slot</li> </ul>	BEF-KHZ-RC-12	2077673
	<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>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> C-slot</li> </ul>	BEF-KHZ-RC-16	2077672
	<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>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> C-slot</li> </ul>	BEF-KHZ-RC-20	2077671
	<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>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> C-slot</li> </ul>	BEF-KHZ-RC-25	2077670
	<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>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> C-slot</li> </ul>	BEF-KHZ-RC-32	2077669
	<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>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> C-slot</li> </ul>	BEF-KHZ-RC-40	2077668
	<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>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> C-slot</li> </ul>	BEF-KHZ-RC-50	2077667
	<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>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> C-slot</li> </ul>	BEF-KHZ-RC-63	2077666
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket on round body cylinder with piston diameter of 1 mm ... 25 mm, ambient temperature min -30 °C max 80 °C</li> <li><b>Material:</b> Stainless steel, Aluminum</li> <li><b>Details:</b> Stainless steel, Aluminum</li> <li><b>Packing unit:</b> 1 piece</li> <li><b>Suitable for:</b> C-slot</li> </ul>	BEF-KHZ-RC1-25	2077685
	<ul style="list-style-type: none"> <li><b>Description:</b> Mounting bracket on round body cylinder with piston diameter of 1 mm ... 130 mm, ambient temperature min -30 °C max 80 °C</li> <li><b>Material:</b> Stainless steel, Aluminum</li> <li><b>Details:</b> Stainless steel, Aluminum</li> <li><b>Packing unit:</b> 1 piece</li> <li><b>Suitable for:</b> C-slot</li> </ul>	BEF-KHZ-RC1-130	2077686
	<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-PC1	2076170

	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.

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**For us, that is "Sensor Intelligence."**

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