



MZT8-03VPS-KQD

MZT8

CYLINDER SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
MZT8-03VPS-KQD	1058317

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



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 ¹⁾

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

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC
Power consumption	10 mA, without load
Voltage drop	≤ 2.2 V
Continuous current I_a	≤ 200 mA
Protection class	III
Time delay before availability	25 ms
Response sensitivity, typ.	2.6 mT
Overrun distance, typ.	3 mm
Hysteresis, typ.	0.7 mT

¹⁾ Supply voltage U_B and constant ambient temperature T_a.

Reproducibility	$\leq 0.1 \text{ mT}^1)$
Reverse polarity protection	Yes
Short-circuit protection	Yes
Status indicator LED	Yes
Teach-in	No
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 M12, 4-pin, with knurled nut, drag chain use, 1 m
Connection type Detail	
Conductor cross section	0.14 mm ²
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/s ²
Cable outlet	Axial
Material	
Housing	Plastic, PA12
Cable	PUR
UL File No.	NRKH.E181493 & NRKH7.E181493

¹⁾ Supply voltage U_B and constant ambient temperature T_a.

Safety-related parameters

MTTF_D	2,289 years
DC_{avg}	0 %
T_M (mission time)	20 years

Certificates

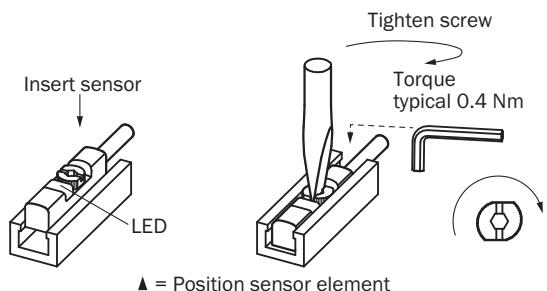
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China-RoHS	✓
cULus certificate	✓

Classifications

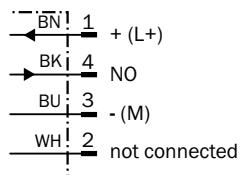
ECLASS 5.0	27270104
ECLASS 5.1.4	27270104

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

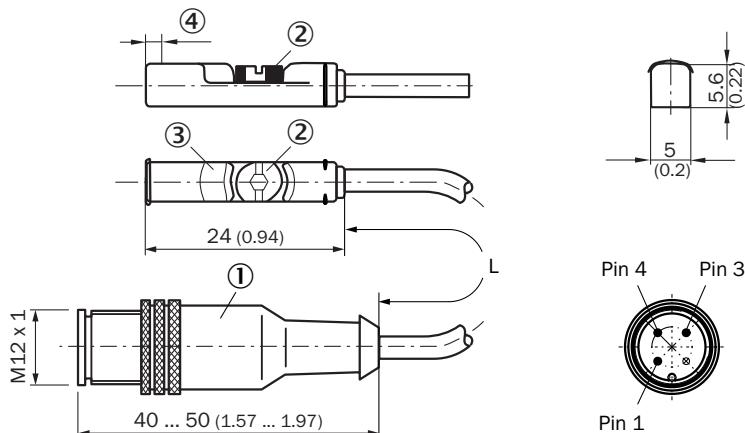
Installation note



Connection diagram Cd-011



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; short overrun distance (3 mm): 2.25 mm, long overrun distance (9 mm): 1.5 mm

Part no.	Type	L	Number of cores
1044460	MZT8-03VPS-KQ0	300 mm	3
1048051	MZT8-28VPS-KQ0	300 mm	3
1135895	MZT8-2V8PSWKQ0S40	300 mm	3
1058311	MZT8-28VPS-KQD	500 mm	3
1127307	MZT8-2V8PSWKQDS39	500 mm	3
1058317	MZT8-03VPS-KQD	1 m	3

Recommended accessories

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

	Brief description	Type	part no.
device protection and care			
	<ul style="list-style-type: none">Description: Protective adapterMaterial: Zinc diecastItems supplied: Mounting hardware includedSuitable for: MZT7, RZT7, MZT8	BEF-SG-MRZT	2077201

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> Description: Mounting bracket for integrated profile cylinder/tie-rod cylinder Material: Zinc diecast Details: Zinc diecast Items supplied: Mounting hardware included 	BEF-KHZ-PT1	2022702
	<ul style="list-style-type: none"> Description: Mounting bracket on round body cylinder with piston diameter of 8 mm ... 130 mm, ambient temperature min -30 °C max 80 °C Material: Stainless steel, Zinc cast Details: Stainless steel, Zinc cast Packing unit: 1 piece Suitable for: T-slot 	BEF-KHZ-RT1-130	2077684
	<ul style="list-style-type: none"> Description: Mounting bracket on round body cylinder with piston diameter of 12 mm, ambient temperature min 0 °C max 50 °C Dimensions (W x H x L): 22.4 m Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: T-slot 	BEF-KHZ-RT-12	2077681
	<ul style="list-style-type: none"> Description: Mounting bracket on round body cylinder with piston diameter of 8 mm ... 25 mm, ambient temperature min -30 °C max 80 °C Material: Stainless steel, Zinc cast Details: Stainless steel, Zinc cast Packing unit: 1 piece Suitable for: T-slot 	BEF-KHZ-RT1-25	2077682
	<ul style="list-style-type: none"> Description: Mounting bracket on round body cylinder with piston diameter of 16 mm, ambient temperature min 0 °C max 50 °C Dimensions (W x H x L): 26.6 m Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: T-slot 	BEF-KHZ-RT-16	2077680
	<ul style="list-style-type: none"> Description: Mounting bracket on round body cylinder with piston diameter of 8 mm ... 63 mm, ambient temperature min -30 °C max 80 °C Material: Stainless steel, Zinc cast Details: Stainless steel, Zinc cast Packing unit: 1 piece Suitable for: T-slot 	BEF-KHZ-RT1-63	2077683
	<ul style="list-style-type: none"> Description: Mounting bracket on round body cylinder with piston diameter of 20 mm, ambient temperature min 0 °C max 50 °C Dimensions (W x H x L): 30.6 m Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: T-slot 	BEF-KHZ-RT-20	2077679
	<ul style="list-style-type: none"> Description: Mounting bracket on round body cylinder with piston diameter of 25 mm, ambient temperature min 0 °C max 50 °C Dimensions (W x H x L): 35.7 m Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: T-slot 	BEF-KHZ-RT-25	2077678
	<ul style="list-style-type: none"> Description: Mounting bracket on round body cylinder with piston diameter of 32 mm, ambient temperature min 0 °C max 50 °C Dimensions (W x H x L): 42.9 m Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece Suitable for: T-slot 	BEF-KHZ-RT-32	2077677
	<ul style="list-style-type: none"> Description: Mounting bracket on round body cylinder with piston diameter of 40 mm, ambient temperature min 0 °C max 50 °C Dimensions (W x H x L): 50.9 m Material: Plastic, Aluminum Details: Plastic, Aluminum Packing unit: 1 piece 	BEF-KHZ-RT-40	2077676

	Brief description	Type	part no.
	<ul style="list-style-type: none">• Suitable for: T-slot• Description: Mounting bracket on round body cylinder with piston diameter of 50 mm, ambient temperature min 0 °C max 50 °C• Dimensions (W x H x L): 61.8 m• Material: Plastic, Aluminum• Details: Plastic, Aluminum• Packing unit: 1 piece• Suitable for: T-slot	BEF-KHZ-RT-50	2077675
	<ul style="list-style-type: none">• Description: Mounting bracket on round body cylinder with piston diameter of 63 mm, ambient temperature min 0 °C max 50 °C• Dimensions (W x H x L): 73.9 m• Material: Plastic, Aluminum• Details: Plastic, Aluminum• Packing unit: 1 piece• Suitable for: T-slot	BEF-KHZ-RT-63	2077674
	<ul style="list-style-type: none">• Description: Mounting bracket for cylinder with dovetail slot• Material: Aluminum• Details: Aluminum• Items supplied: Without mounting hardware	BEF-KHZ-ST1	2022703
	<ul style="list-style-type: none">• Description: Mounting bracket for mounting on SMC rails ECDQ2 (T-slot)• Material: Aluminum• Details: Aluminum• Items supplied: Without mounting hardware	BEF-KHZ-TT1	2046439
	<ul style="list-style-type: none">• Description: Mounting bracket for mounting on SMC rails CDQ2 (T-slot)• Material: Aluminum• Details: Aluminum• Items supplied: Without mounting hardware	BEF-KHZ-TT2	2046440

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	DOS-1204-G	6007302
	<ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, straight, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	STE-1204-G	6009932
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, angled, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	DOS-1204-W	6007303
	<ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, angled, A-coded Description: Unshielded Connection systems: Screw-type terminals Permitted cross-section: ≤ 0.75 mm² 	STE-1204-W	6022084
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A14-020UB3XLEAX	2095607
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A14-050UB3XLEAX	2095608
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YG2A14-020UB3XLEAX	2095766
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YG2A14-050UB3XLEAX	2095767
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Note: Only suitable for PNP sensors Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YI2A14-020UB3XLEAX	2095836
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Note: Only suitable for PNP sensors Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YI2A14-050UB3XLEAX	2095837
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 4-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 4-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Note: Only suitable for PNP sensors Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YI2A14-100UB3XLEAX	2095838

	Brief description	Type	part no.
	<ul style="list-style-type: none">Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operationConnection type head A: Female connector, M12, 4-pin, straight, A-codedConnection type head B: Flying leadsSignal type: Sensor/actuator cableCable: 0.6 m, 4-wire, PUR, halogen-freeDescription: Sensor/actuator cable, unshieldedApplication: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-C60UB3XLEAX	2145654
	<ul style="list-style-type: none">Connection type head A: Female connector, M12, 4-pin, straight, A-codedConnection type head B: Flying leadsSignal type: Sensor/actuator cableCable: 1 m, 4-wire, PUR, halogen-freeDescription: Sensor/actuator cable, unshieldedApplication: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-010UB3XLEAX	2145655
	<ul style="list-style-type: none">Connection type head A: Female connector, M12, 4-pin, straight, A-codedConnection type head B: Flying leadsSignal type: Sensor/actuator cableCable: 3 m, 4-wire, PUR, halogen-freeDescription: Sensor/actuator cable, unshieldedApplication: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A14-030UB3XLEAX	2145656
	<ul style="list-style-type: none">Connection type head A: Female connector, M12, 4-pin, angled, A-codedConnection type head B: Flying leadsSignal type: Sensor/actuator cableCable: 0.6 m, 4-wire, PUR, halogen-freeDescription: Sensor/actuator cable, unshieldedApplication: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YG2A14-C60UB3XLEAX	2145657
	<ul style="list-style-type: none">Connection type head A: Female connector, M12, 4-pin, angled, A-codedConnection type head B: Flying leadsSignal type: Sensor/actuator cableCable: 1 m, 4-wire, PUR, halogen-freeDescription: Sensor/actuator cable, unshieldedApplication: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YG2A14-010UB3XLEAX	2145658
	<ul style="list-style-type: none">Connection type head A: Female connector, M12, 4-pin, angled, A-codedConnection type head B: Flying leadsSignal type: Sensor/actuator cableCable: 0.6 m, 4-wire, PUR, halogen-freeDescription: Sensor/actuator cable, unshieldedNote: Only suitable for PNP sensorsApplication: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YI2A14-C60UB3XLEAX	2145696
	<ul style="list-style-type: none">Connection type head A: Female connector, M12, 4-pin, angled, A-codedConnection type head B: Flying leadsSignal type: Sensor/actuator cableCable: 3 m, 4-wire, PUR, halogen-freeDescription: Sensor/actuator cable, unshieldedNote: Only suitable for PNP sensorsApplication: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YI2A14-030UB3XLEAX	2145698
	<ul style="list-style-type: none">Connection type head A: Female connector, M12, 4-pin, angled, A-codedConnection type head B: Flying leadsSignal type: Sensor/actuator cableCable: 1 m, 4-wire, PUR, halogen-freeDescription: Sensor/actuator cable, unshieldedNote: Only suitable for PNP sensorsApplication: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YI2A14-010UB3XLEAX	2145697

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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