MZT7-03VPS-KWD

MZT7

CYLINDER SENSORS
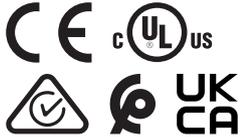
SICK
Sensor Intelligence.

MZT7-03VPS-KWD | MZT7

CYLINDER SENSORS

Ordering information

Type	part no.
MZT7-03VPS-KWD	1089027

Other models and accessories ➔ www.sick.com/MZT7

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	29.5 mm
Switching output	PNP
Switching frequency	1,000 Hz
Output function	NO
Electrical wiring	DC 3-wire
Enclosure rating	IP65 [1] IP67

[1] According to EN 60529.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC
Power consumption	8 mA, without load
Voltage drop	≤ 2 V
Continuous current I_a	≤ 100 mA
Protection class	III
Response sensitivity, typ.	3 mT
Overrun distance, typ.	10 mm [1]
Hysteresis, typ.	< 0.8 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_B and constant ambient temperature Ta.

Short-circuit protection	Yes
Status indicator LED	Yes
Teach-in	No
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, 3-wire, stripped, 10 m
Connection type Detail	
Conductor cross section	0.12 mm²
Cable diameter	Ø 2.9 mm
Bending radius	With fixed installation > 10 x cable diameter
	For flexible use > 15 x cable diameter
Cable outlet	Axial
Material	
Housing	Plastic
Cable	PVC
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 Ta.

Safety-related parameters

MTTF$_D$	1,300 years
DC$_{avg}$	0 %
T$_M$ (mission time)	20 years

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

Certificates

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

Installation note

Insert sensor

LED

Tighten screw

Torque typical 0.7 Nm

AF 2.5

▲ = Position sensor element
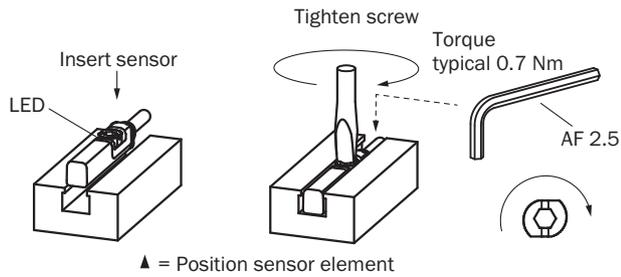
Connection diagram Cd-001

BN — + (L+)

BK — NO
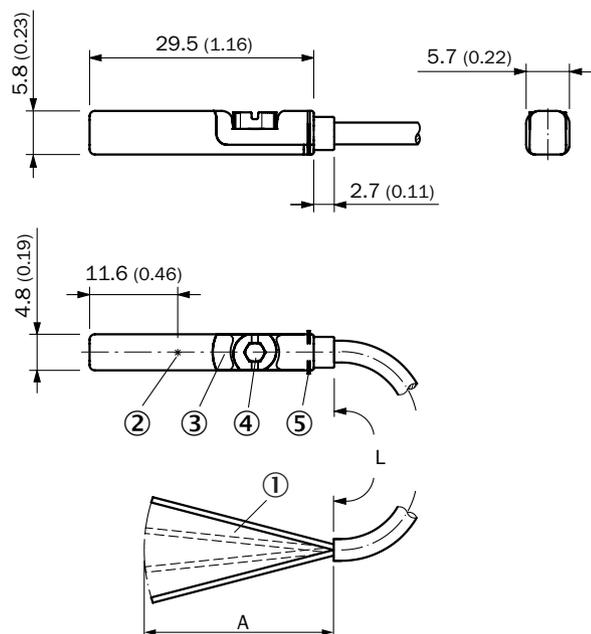
BU — - (M)
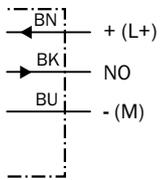
Functional principle Overrun distance
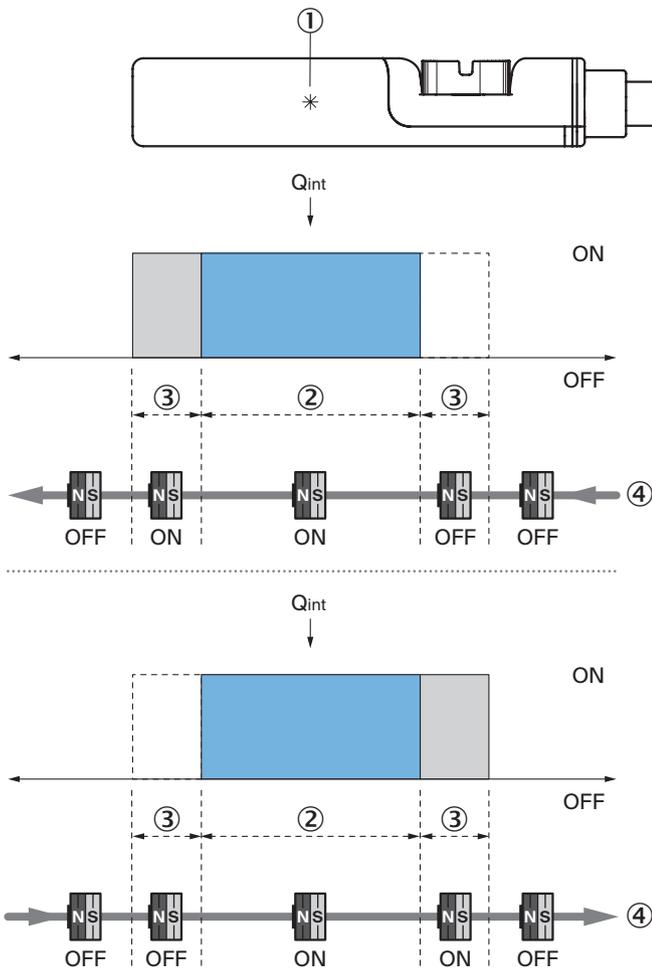
Note: Sensor housing may differ; representation corresponds to "NO contact" output function; overrun distance = switching point width + hysteresis
① Position sensor element
② Width of the switching point
③ Hysteresis
④ Direction of movement of the magnet

Dimensional drawing Cable

Dimensions in mm (inch)
① Connection
② Position sensor element
③ Display LED
④ Fixing screw SW 2.5
⑤ retaining ribs

		L	A	
1070829	MZT7-03VPS-KU0	2 m	31.5	3
1070830	MZT7-03VP0-KU0	2 m	31.5	3
1070831	MZT7-03VNS-KU0	2 m	31.5	3
1070832	MZT7-03VN0-KU0	2 m	31.5	3
1070838	MZT7-03VPS-KW0	2 m	31.5	3
1070840	MZT7-03VNS-KW0	2 m	31.5	3
1092259	MZT7-2V2PS-KW0	2 m	31.5	3
1070835	MZT7-03VNS-KUB	5 m	31.5	3
1070844	MZT7-03VNS-KWB	5 m	31.5	3
1070833	MZT7-03VPS-KUB	5 m	31.5	3
1070842	MZT7-03VPS-KWB	5 m	31.5	3
1085193	MZT7-03VPS-KUDS06	7.5 m	31.5	3
1094617	MZT7-03VP0-KUDS11	7.5 m	31.5	3
1070837	MZT7-03VPS-KUD	10 m	31.5	3
1089027	MZT7-03VPS-KWD	10 m	31.5	3
1105431	MZT7-03VPS-KUDS15	20 m	31.5	3

Recommended accessories

Other models and accessories ➜ www.sick.com/MZT7

	Brief description	Type	part no.
Mounting systems			
	• **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
	• **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
	• **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
	• **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
	• **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
	• **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
	• **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
	• **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
	• **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.
	• **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
	• **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
	• **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
	• **Description:** Mounting bracket for mounting on SMC rails ECDQ2 (T-slot) • **Material:** Aluminum • **Details:** Aluminum • **Items supplied:** Without mounting hardware	BEF-KHZ-TT1	2046439
	• **Description:** Mounting bracket for mounting on SMC rails CDQ2 (T-slot) • **Material:** Aluminum • **Details:** Aluminum • **Items supplied:** Without mounting hardware	BEF-KHZ-TT2	2046440
	• **Description:** Mounting bracket for cylinder with dovetail slot • **Material:** Aluminum • **Details:** Aluminum • **Items supplied:** Without mounting hardware	BEF-KHZ-ST1	2022703

device protection and care

		Type	part no.
	• **Description:** Protective adapter • **Material:** Zinc diecast • **Items supplied:** Mounting hardware included • **Suitable for:** MZT7, RZT7, MZT8	BEF-SG-MRZT	2077201

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.

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