



MZN-03VPS-KP0

MZN

CYLINDER SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	part no.
MZN-03VPS-KPO	1117577

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



Detailed technical data

Features

Cylinder type	IMI Norgren slot
Cylinder types with adapter	Round body cylinder
Housing length	29.5 mm
Switching output	PNP
Switching frequency	1,000 Hz
Output function	NO
Electrical wiring	DC 3-wire
Enclosure rating	IP67 ¹⁾

¹⁾ According to EN 60529.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC
Power consumption	10 mA, without load
Voltage drop	≤ 2 V
Continuous current I_a	≤ 100 mA
Protection class	III
Response sensitivity, typ.	2.8 mT
Overrun distance, typ.	9 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
Ambient operating temperature	-40 °C ... +80 °C
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm

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.

EMC	According to EN 60947-5-2	
Connection type	Cable with connector M8, 3-pin, drag chain use, 0.3 m	
Connection type Detail		
	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
	Cable outlet	Axial
Material		
	Housing	Plastic
	Cable	TPU
Items supplied	1 x mounting clip plugged in	
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	4,675 years
DC_{avg}	0 %
T_M (mission time)	20 years

Certificates

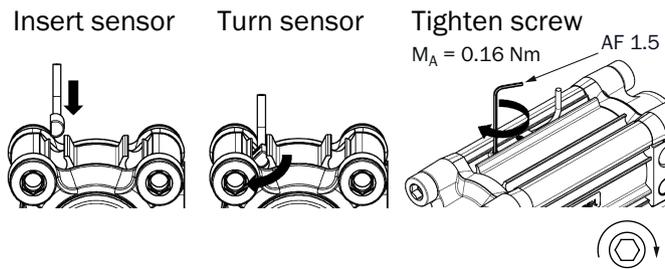
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓

Classifications

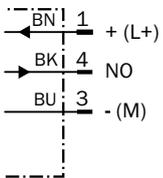
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ECLASS 6.0	27270104
ECLASS 6.2	27270104
ECLASS 7.0	27270104
ECLASS 8.0	27270104
ECLASS 8.1	27270104
ECLASS 9.0	27270104
ECLASS 10.0	27270104
ECLASS 11.0	27270104
ECLASS 12.0	27274301
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ETIM 6.0	EC002544

ETIM 7.0	EC002544
ETIM 8.0	EC002544
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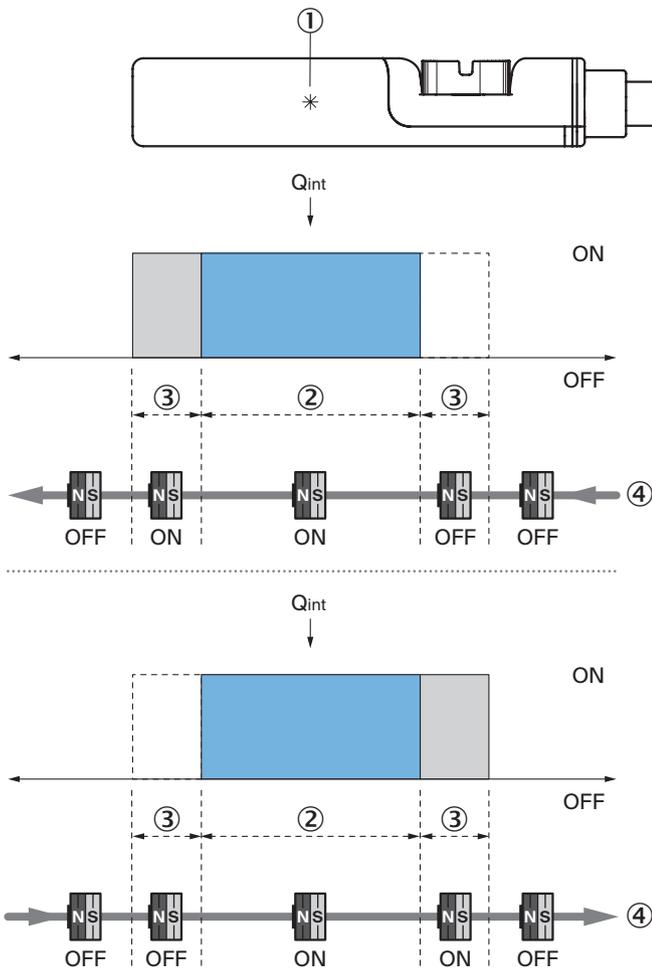
Installation note



Connection diagram Cd-002



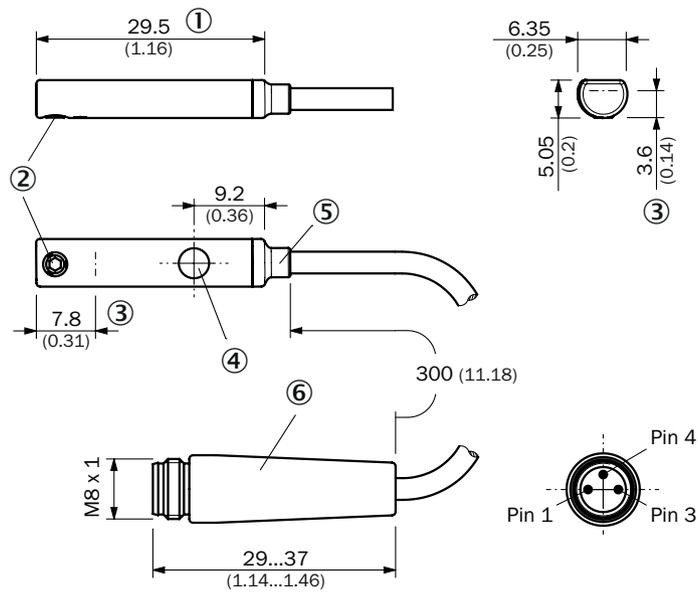
Functional principle Overrun distance



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 housing
- ② Fixing screw SW 1.5
- ③ Position sensor element
- ④ Display LED
- ⑤ Hotmelt sleeve
- ⑥ Connection

Recommended accessories

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

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> Description: Mounting clip for round body cylinder, clamping range 9.2 mm to 10 mm, for piston rod diameter of 8 mm Material: Plastic Details: Plastic Items supplied: Mounting hardware included 	BEF-S-R1-08	7902337
	<ul style="list-style-type: none"> Description: Mounting clip for round body cylinder, clamping range 10.9 mm to 12 mm, for piston rod diameter of 10 mm Material: Plastic Details: Plastic Items supplied: Mounting hardware included 	BEF-S-R1-10	7901753
	<ul style="list-style-type: none"> Description: Mounting clip for round body cylinder, clamping range 12.9 mm to 41 mm, for piston rod diameter of 12 mm Material: Plastic Details: Plastic Items supplied: Mounting hardware included 	BEF-S-R1-12	7901754
	<ul style="list-style-type: none"> Description: Mounting clip for round body cylinder, clamping range 16.9 mm to 18 mm, for piston rod diameter of 16 mm Material: Plastic Details: Plastic Items supplied: Mounting hardware included 	BEF-S-R1-16	7901755
	<ul style="list-style-type: none"> Description: Mounting clip for round body cylinder, clamping range 21 mm to 22 mm, for piston rod diameter of 20 mm Material: Plastic Details: Plastic Items supplied: Mounting hardware included 	BEF-S-R1-20	7901756
	<ul style="list-style-type: none"> Description: Mounting clip for round body cylinder, clamping range 26.1 mm to 27.2 mm, for piston rod diameter of 25 mm Material: Plastic Details: Plastic Items supplied: Mounting hardware included 	BEF-S-R1-25	7901757
	<ul style="list-style-type: none"> Description: Mounting clip for round body cylinder, clamping range 33 mm to 35 mm, for piston rod diameter of 32 mm Material: Plastic Details: Plastic Items supplied: Mounting hardware included 	BEF-S-R1-32	7901758
	<ul style="list-style-type: none"> Description: Mounting clip for round body cylinder, clamping range 41.4 mm to 42.5 mm, for piston rod diameter of 40 mm Material: Plastic Details: Plastic Items supplied: Mounting hardware included 	BEF-S-R1-40	7901759

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 3-pin, angled, A-coded • Description: Unshielded • Connection systems: Solder connection • Permitted cross-section: ≤ 0.25 mm² 	DOS-0803-W	7902078
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 3-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: 0.14 mm² ... 0.5 mm² 	DOS-0803-G	7902077
	<ul style="list-style-type: none"> • Connection type head A: Male connector, M8, 3-pin, straight, A-coded • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: 0.14 mm² ... 0.5 mm² 	STE-0803-G	6037322
	<ul style="list-style-type: none"> • 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: Zones with chemicals, Uncontaminated zones 	YG8U13-050VA1XLEAX	2096166
	<ul style="list-style-type: none"> • 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: Zones with chemicals, Uncontaminated zones 	YG8U13-020VA1XLEAX	2096165
	<ul style="list-style-type: none"> • 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: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YG8U13-020UA1XLEAX	2094794
	<ul style="list-style-type: none"> • 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: Zones with chemicals, Uncontaminated zones 	YF8U13-050VA1XLEAX	2095884
	<ul style="list-style-type: none"> • 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, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF8U13-050UA1XLEAX	2094788
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M8, 3-pin, straight, 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: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF8U13-030UA1XLEAX	2094787
	<ul style="list-style-type: none"> • 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: Zones with chemicals, Uncontaminated zones 	YF8U13-020VA1XLEAX	2095860
	<ul style="list-style-type: none"> • 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, PUR, halogen-free • Description: Sensor/actuator cable, unshielded 	YF8U13-020UA1XLEAX	2094782

	Brief description	Type	part no.
	<ul style="list-style-type: none"> • Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation • 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: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	<p>YG8U13-C60UA1XLEAX</p>	<p>2145889</p>
	<ul style="list-style-type: none"> • 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: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	<p>YG8U13-030UA1XLEAX</p>	<p>2145891</p>
	<ul style="list-style-type: none"> • 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: Zones with chemicals, Uncontaminated zones 	<p>YF8U13-C60VA1XLEAX</p>	<p>2146368</p>

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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