



MM12-60ANS-ZCK

MME

MAGNETIC SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
MM12-60ANS-ZCK	1040071

Included in delivery: BEF-MU-M12 (1)

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

Detailed technical data

Features

Housing	Cylindrical thread design
Housing	Short-body
Thread size	M12 x 1
Diameter	Ø 12 mm
Sensing range S_n	0 mm ... 60 mm ¹⁾
Safe sensing range S_a	48.6 mm
Magnetic sensitivity	1 mT
Switching frequency	1,000 Hz
Connection type	Male connector M12, 4-pin
Switching output	NPN
Output function	NO
Electrical wiring	DC 3-wire
Magnetic alignment	Axial
Enclosure rating	IP67 ²⁾
Items supplied	Mounting nut, brass, nickel-plated (2x)

¹⁾ Sensing range based on installation in non-magnetic material using Magnet MAG-3010-B (M4.0).

²⁾ According to EN 60529.

Mechanics/electronics

Supply voltage	10 V DC ... 30 V DC
Ripple	≤ 10 % ¹⁾
Voltage drop	≤ 2 V ²⁾
Current consumption	10 mA ³⁾

¹⁾ Of V_S .

²⁾ At I_a max.

³⁾ Without load.

⁴⁾ Von Sr (VS und Ta constant).

⁵⁾ Pulsed.

Time delay before availability	≤ 20 ms
Hysteresis	1 % ... 10 %
Reproducibility	≤ 1 % ⁴⁾
Temperature drift (of S_r)	± 10 %
EMC	According to EN 60947-5-2
Continuous current I_a	≤ 200 mA
Short-circuit protection	✓ ⁵⁾
Reverse polarity protection	✓
Power-up pulse protection	✓
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm
Ambient operating temperature	-25 °C ... +75 °C
Housing material	Metal, Nickel-plated brass
Housing length	46 mm
Thread length	28 mm
Tightening torque, max.	15 Nm

¹⁾ Of V_S.

²⁾ At I_a max.

³⁾ Without load.

⁴⁾ Von S_r (V_S und T_a constant).

⁵⁾ Pulsed.

Safety-related parameters

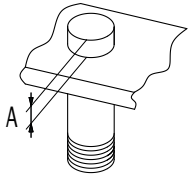
MTTF_D	1,980 years
DC_{avg}	0%
T_M (mission time)	20 years

Classifications

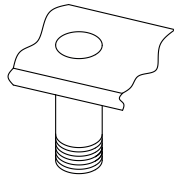
ECLASS 5.0	27270104
ECLASS 5.1.4	27270104
ECLASS 6.0	27270104
ECLASS 6.2	27270104
ECLASS 7.0	27270104
ECLASS 8.0	27270104
ECLASS 8.1	27270104
ECLASS 9.0	27270104
ECLASS 10.0	27270104
ECLASS 11.0	27270104
ECLASS 12.0	27274301
ETIM 5.0	EC002544
ETIM 6.0	EC002544
ETIM 7.0	EC002544
ETIM 8.0	EC002544
UNSPSC 16.0901	39122230

Installation note

installation in magnetizable material



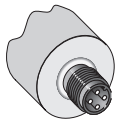
installation in non-magnetizable material



Ø	A (mm)	M (Nm)
M12	10	< 15

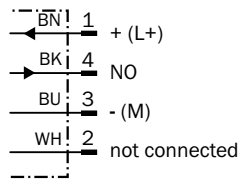


Connection type



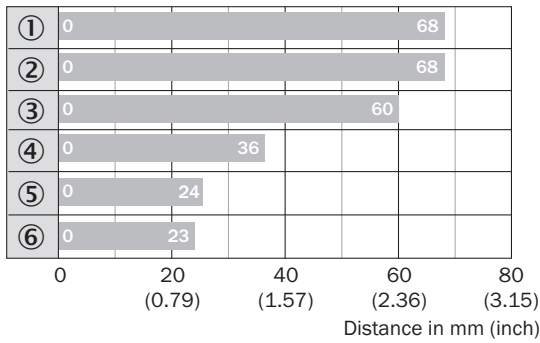
Connection diagram

Cd-011



Sensing range diagram

Sensing range

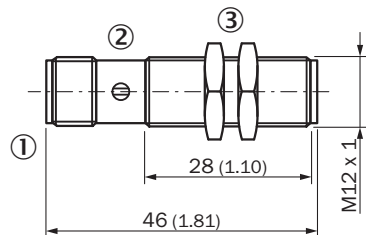


■ Max. sensing range S_n , flush or non-flush installation, non-magnetizable material

Magnet type	Part no.
① MAG-3315-B (M 5.1)	7902086
② MAG-3015-B (M 5.0)	7901786
③ MAG-3010-B (M 4.0)	7901785
④ MAG-2006-B (M 3.0)	7901784
⑤ MAG-0625-A (M 2.0)	7901783
⑥ MAG-1003-S (M 1.0)	7901782

Dimensional drawing (Dimensions in mm (inch))

MM12, connector, short-body housing









- ① Connection
- ② Display LED
- ③ Fastening nuts (2x); width across 17, metal

Recommended accessories

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

	Brief description	Type	Part no.
Universal bar clamp systems			
	Plate N05 for universal clamp bracket, M12, Zinc plated steel (sheet), Zinc die cast (clamping bracket), Universal clamp (5322626), mounting hardware	BEF-KHS-N05	2051611
	Plate N05N for universal clamp bracket, M12, Stainless steel 1.4571 (sheet), Stainless steel 1.4408 (clamp), Universal clamp (5322627), mounting hardware	BEF-KHS-N05N	2051621
	Mounting bar, straight, 200 mm, stainless steel, Stainless steel (1.4571)	BEF-MS12G-NA	4058914
Mounting brackets and plates			
	Mounting plate for M12 sensors, steel, zinc coated, without mounting hardware	BEF-WG-M12	5321869
	Mounting bracket for M12 sensors, steel, zinc coated, without mounting hardware	BEF-WN-M12	5308447
Plug connectors and cables			
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 4-pin, straight • Description: Unshielded, Head A: female connector, M12, 4-pin, straight, unshielded, for power supply, for cable diameter 4 mm ... 6 mm Head B: - • 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 • 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: Male connector, M12, 4-pin, angled • Description: Unshielded • Connection systems: Screw-type terminals • Permitted cross-section: ≤ 0.75 mm² 	STE-1204-W	6022084
Terminal and alignment brackets			
	Clamping block for round sensors M12, without fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included	BEF-KH-M12	2051479
	Clamping block for round sensors M12, with fixed stop, plastic (PA12), glass-fiber reinforced, mounting hardware included	BEF-KHF-M12	2051480
Others			
	<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: Zones with oils and lubricants, Drag chain operation, Robot 	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: Zones with oils and lubricants, Drag chain operation, Robot 	YF2A14-050UB3XLEAX	2095608

	Brief description	Type	Part no.
	<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: Zones with oils and lubricants, Drag chain operation, Robot 	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: Zones with oils and lubricants, Drag chain operation, Robot 	YG2A14-050UB3XLEAX	2095767
	<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, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals 	YF2A14-020VB3XLEAX	2096234
	<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, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals 	YF2A14-050VB3XLEAX	2096235
	<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, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals 	YG2A14-020VB3XLEAX	2095895
	<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, PVC • Description: Sensor/actuator cable, unshielded • Application: Zones with chemicals 	YG2A14-050VB3XLEAX	2095897

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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