MM12-90APS-ZU0

MME

MAGNETIC SENSORS

SICK
Sensor Intelligence.

MM12-90APS-ZU0 | MME

MAGNETIC SENSORS

Ordering information

Type	Part no.
MM12-90APS-ZU0	1029951

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

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

Illustration may differ

Detailed technical data

Features

Housing	Cylindrical thread design
Housing	Advanced
Thread size	M12 x 1
Diameter	Ø 12 mm
Sensing range S_n	5 mm ... 90 mm [1]
Safe sensing range S_a	72.9 mm
Magnetic sensitivity	0.6 mT
Switching frequency	1,000 Hz
Connection type	Cable, 3-wire, 2 m
Switching output	PNP
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	≤ 2.2 V [2]

[1] Of V_S.
[2] At I_a max.
[3] Without load.
[4] Von Sr (VS und Ta constant).
[5] Pulsed.

Current consumption	10 mA [3]
Time delay before availability	≤ 30 ms
Hysteresis	≤ 25 %
Reproducibility	≤ 1 % [4]
Temperature drift (of S_r)	± 10 %
EMC	According to EN 60947-5-2
Continuous current I_a	≤ 200 mA
Cable material	PUR
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	50 mm
Thread length	40 mm
Tightening torque, max.	7 Nm

[1] Of V_S.

[2] At I_a max.

[3] Without load.

[4] Von Sr (VS und Ta constant).

[5] Pulsed.

Safety-related parameters

$MTTF_D$	2,519 years
DC_{avg}	0 %

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

Connection diagram

Cd-001

```
  ┌─┐
  ┆ BN ┆
──◄────┆────── + (L+)
  ┆ BK ┆
──►────┆────── NO
  ┆ BU ┆
───────┆────── - (M)
  ┆    ┆
  └─┘
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Sensing range diagram

①	5	100
②	5	100
③	5	90
④	5	50
⑤	5	35
⑥	5	30

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0       30      60      90      120
      (1.18)  (2.36)  (3.54)  (4.72)
         Distance in mm (inch)
```
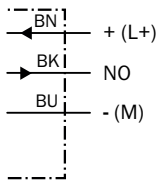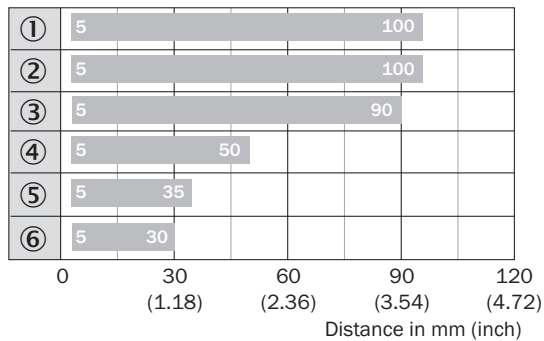
▨ Max. sensing range S_n, flush or non-flush installation, non-magnetizable material

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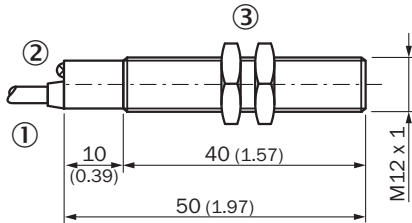
① Connection
② Display LED
③ Fastening nuts (2x); width across 17, metal

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
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

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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