



Ordering information

Type	Part no.
MM12-70A-N-ZWO	1102541

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

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

Illustration may differ



Detailed technical data

Features

Housing	Cylindrical thread design
Thread size	M12 x 1
Diameter	Ø 12 mm
Sensing range S_n	5 mm ... 70 mm ¹⁾
Safe sensing range S_a	56.7 mm
Magnetic sensitivity	≤ 0.7 mT
Switching frequency	1,000 Hz
Connection type	Cable, 2-wire, 2 m ²⁾
Switching output	NAMUR
Output characteristic	Control current depending on switching state according to NAMUR EN 60947-5-6
Electrical wiring	DC 2-wire
Magnetic alignment	Axial
Enclosure rating	IP67 ³⁾
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⁾ Do not bend below 0 °C.

³⁾ According to EN 60529.

Mechanics/electronics

Ripple	≤ 5 % ¹⁾
Time delay before availability	≤ 2 ms
Hysteresis	≤ 25 %
Reproducibility	≤ 1 % ²⁾
Temperature drift (of S_n)	± 10 %

¹⁾ Of V_S .

²⁾ Von S_r (V_S und T_a constant).

³⁾ For connection to a separately certified intrinsically safe circuit only.

EMC	According to EN 60947-5-2
Current consumption, sensor is activated	≥ 2.3 mA
Current consumption, sensor is not activated	≤ 1 mA
Cable material	PVC
Conductor size	0.34 mm ²
Cable resistance	≤ 50 Ω
Wire-break protection	✓
Short-circuit protection	✓
Reverse polarity protection	✓
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm
Ambient operating temperature	-25 °C ... +70 °C
Housing material	Metal, Nickel-plated brass
Housing length	50 mm
Thread length	40 mm
Tightening torque, max.	≤ 7 Nm
Type approval certificate	TÜV 19 ATEX 241335
UK type examination certificate	UL22UKEX2385
ATEX marking	EX II 1G Ex ia IIC T6 Ga EX II 1D Ex ia IIIC T ₂₀₀ 85 °C Da Ta: -25 °C ... +70 °C
Ex area category	1G, 1D
Input voltage U_i max.	16 V ³⁾
Input power P_i max.	100 mW ³⁾
Input current I_i max.	30 mA ³⁾
Internal capacitance C_i max.	130 nF ³⁾
Internal inductance L_i max.	10 μH ³⁾
Nominal voltage	8.2 V DC

1) Of V_S.

2) Von Sr (VS und Ta constant).

3) For connection to a separately certified intrinsically safe circuit only.

Safety-related parameters

MTTF_D	2,828 years
DC_{avg}	0 %
T_M (mission time)	20 years

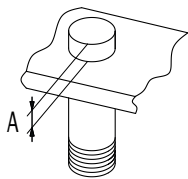
Classifications

eCl@ss 5.0	27270104
eCl@ss 5.1.4	27270104
eCl@ss 6.0	27270104
eCl@ss 6.2	27270104
eCl@ss 7.0	27270104

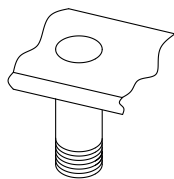
eCl@ss 8.0	27270104
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eCl@ss 10.0	27270104
eCl@ss 11.0	27270104
eCl@ss 12.0	27274301
ETIM 5.0	EC002544
ETIM 6.0	EC002544
ETIM 7.0	EC002544
ETIM 8.0	EC002544
UNSPSC 16.0901	39122230

Installation note

installation in magnetizable material



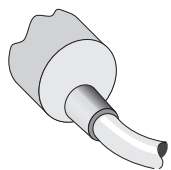
installation in non-magnetizable material



Ø	A (mm)	M (Nm)
M12	15	< 7

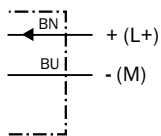


Connection type



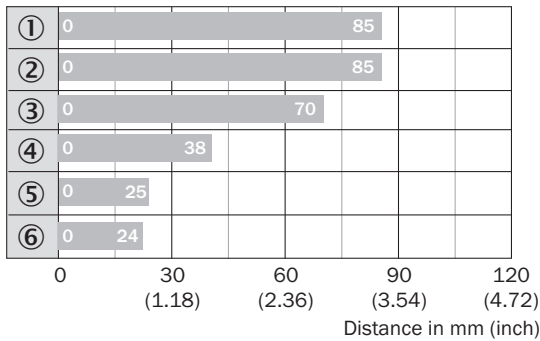
Connection diagram

Cd-012



Sensing range diagram

Sensing range

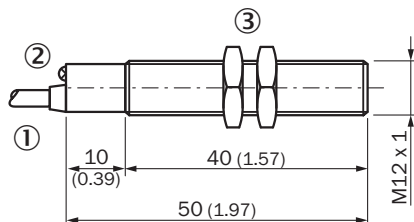


■ Max. sensing range S_n, flush or non-flush installation, non-magnetizable material

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 Namur, cable









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

Recommended accessories

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

	Brief description	Type	Part no.
Power supply modules			
	NAMUR isolating amplifier, Cable fault detection, Switching outputs: 2 NO relay (1 per channel), Supply voltage: 24 V ... 230 V, Voltage type: AC/DC	EN2-2EX1	6041096

	Brief description	Type	Part no.
	NAMUR isolating amplifier, Cable fault detection, Switching outputs: 2 NO relay (1 per channel), Supply voltage: 19,2 V ... 30 V, Voltage type: DC	EN2-2EX3	6041095
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

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For us, that is “Sensor Intelligence.”

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