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DATA SHEET

MM12-70A-N-ZC0

MMN
Magnetic sensors

SICK Sensor Intelligence



Illustration may differ

MAGNETIC SENSORS

MM12-70A-N-ZC0

ORDERING INFORMATION

Type	part no.
MM12-70A-N-ZC0	1102540

Further device versions and accessories at www.sick.com/MMN

DETAILED TECHNICAL DATA

FEATURES

Housing	Metric
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	Male connector M12, 4-pin
Switching output	NAMUR
Switching output detail	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 [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

Ripple	≤ 5 % [1]
Time delay before availability	≤ 2 ms
Hysteresis	≤ 25 %

[1] Of V_s.

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

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

Reproducibility	≤ 1 % [2]
Temperature drift (of S_r)	± 10 %
EMC	According to EN 60947-5-2
Current consumption, sensor is activated	≥ 2.3 mA
Current consumption, sensor is not activated	≤ 1 mA
Cable resistance	≤ 50 Ω
Wire-break protection	✓
Reverse polarity protection	Yes
Short-circuit protection	Yes
Shock and vibration resistance	30 g, 11 ms / 10 ... 55 Hz, 1 mm
Ambient operating temperature	–25 °C ... +70 °C
Housing material	Nickel-plated brass
Housing length	62.5 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

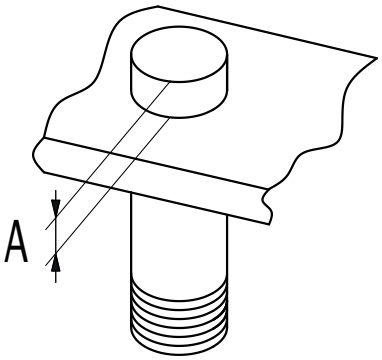
$MTTF_D$	2,828 years
DC_{avg}	0 %
T_M (mission time)	20 years

CERTIFICATES

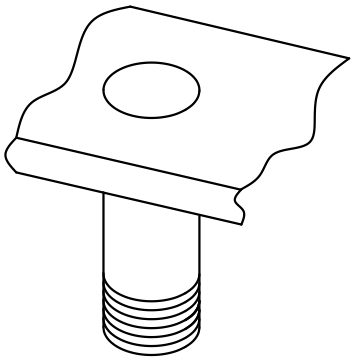
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
ATEX certificate	✓

INSTALLATION NOTE

installation in magnetizable material



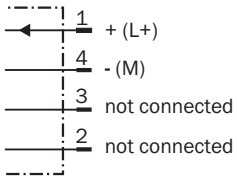
installation in non-magnetizable material



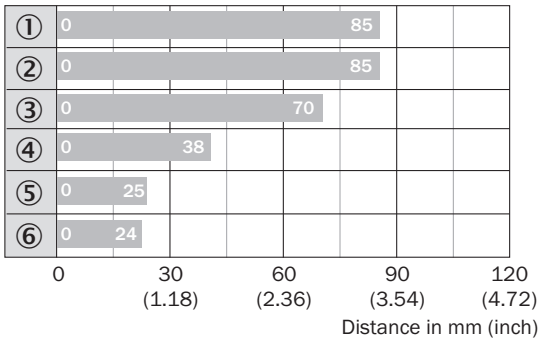


Ø	A (mm)	M (Nm)
M12	15	< 7

CONNECTION DIAGRAM CD-015



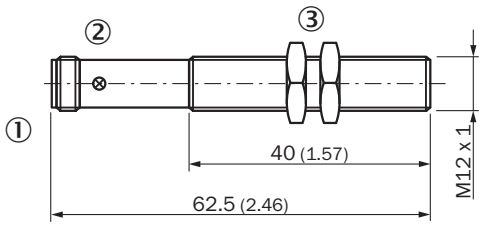
SENSING RANGE



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 MM12 NAMUR, CONNECTOR



Dimensions in mm (inch)
① Connection
② Display LED
③ Fastening nuts (2x); width across 17, metal

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1102540

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SICK AT A GLANCE

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SICK combines sensor intelligence with industry expertise and certified consulting services. We provide the ideal foundation for scalable as well as tailor-made automation solutions and create added value along the entire value chain. Our close partnerships with our customers are more than just a promise: Together, we optimize productivity, improve quality, protect health and safety, and help build a sustainable future. All with empathy and trust.

Since 1946, we have been developing innovative technologies with passion and a pioneering spirit. With a global network in around 40 countries, SICK has a global presence and is always close by. The company's headquarters are located in Waldkirch near Freiburg, Germany. Our customers benefit from our understanding of both local and global requirements, which enables us to deliver tailor-made solutions

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