



Magnetic proximity sensors Cylindrical threaded housing, MM12 NAMUR

MM12-90A-N-ZUD



Model Name > **MM12-90A-N-ZUD**
Part No. > **1046761**



At a glance

- Detection of magnets
- Operating distances up to 60 mm or more based on the magnet strength
- NAMUR as per EN 60 947-5-6
- High switching frequency
- Rugged nickel-plated brass housing with fine thread M12 x 1 mm
- IP 67 enclosure rating
- EC-type test certificate Ex II 2G EEx ib IIC T6 TÜV 99 ATEX 1398
- Cylindrical design

Your benefits

- NAMUR design ensures safe operation in highly explosive areas
- Non-contact operation ensures resistance to dirt, dust and vibration, increasing sensor life and reducing maintenance costs
- Large operating distances ensure reliable switching, even with target position tolerances
- Non-contact, universal detection through several substances, including plastic containers and pipes and protective PTFE walls



Features

Thread size:	M12 x 1
Housing:	Cylindrical
Sensing range Sn:	90 mm ¹⁾
Assured sensing range Sa:	72.9 mm
Magnetic sensitivity:	0.6 mT
Switching frequency:	5,000 Hz
Output type:	NAMUR
Electrical wiring:	NAMUR
Enclosure rating:	IP 67 ²⁾
Magnetic alignment:	Axial
Connection type:	Cable, 4-wire, 0.8 m
Output characteristic:	Control current depending on switching state according to NAMUR EN 60947-5-6

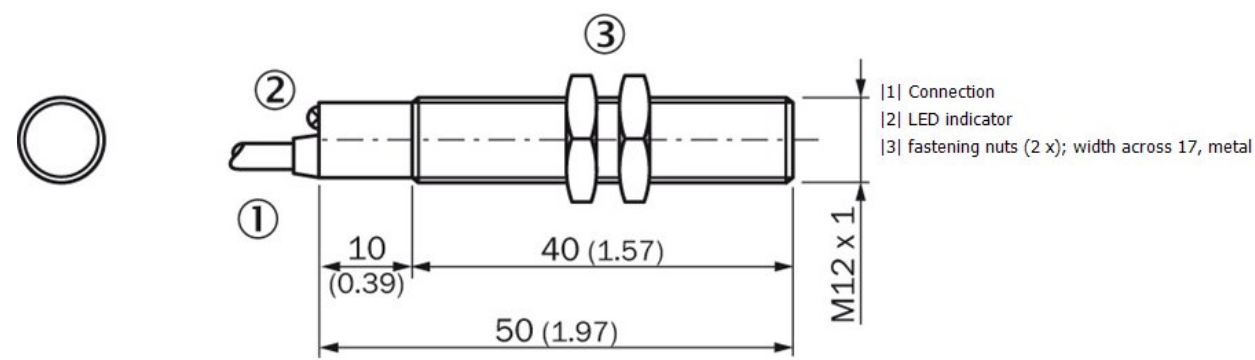
¹⁾ Sensing range based on installation in non-magnetic material using Magnet MAG-3010-B (M4.0) ²⁾ According to EN 60529

Mechanics/electronics

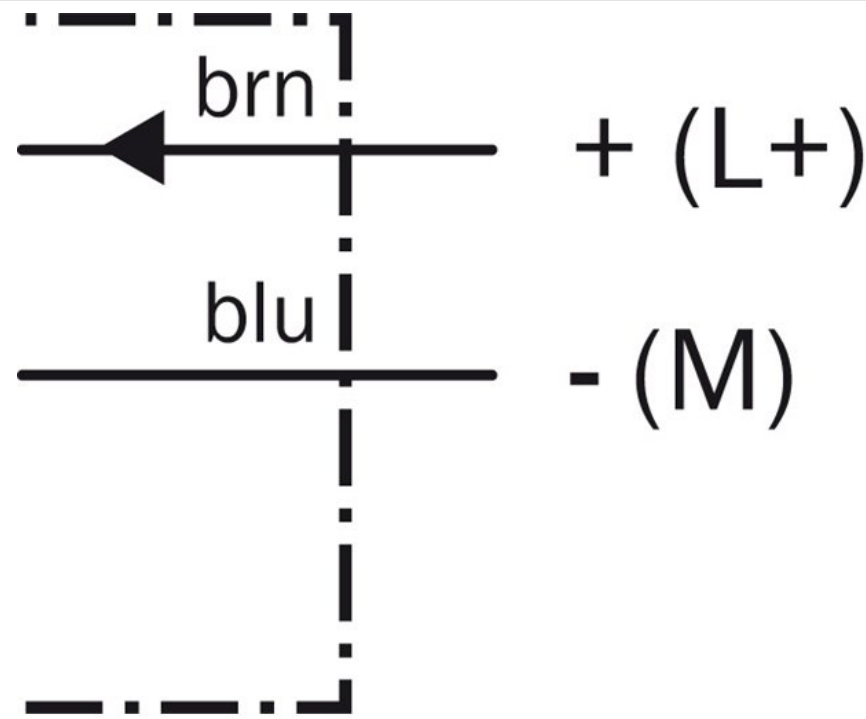
Housing length:	50 mm
Ripple:	$\leq 5\%$ ¹⁾
Hysteresis:	1 % ... 10 %
Repeatability:	$\leq 1\%$ ²⁾
Temperature drift (% of Sr):	$\pm 10\%$
EMC:	According to EN 60947-5-2
Tightening torque, max.:	$\leq 7\text{ Nm}$
Reverse polarity protection:	✓
Short-circuit protection:	✓
Housing material:	Metal, Nickel-plated brass
Time delay before availability:	$\leq 2\text{ ms}$
Ambient operating temperature:	-25 °C ... 75 °C
Shock/vibration:	30 g, 11 ms/10 ... 55 Hz, 1 mm
Current consumption, sensor is activated:	$\geq 2.5\text{ mA}$
Current consumption, sensor is not activated:	$\leq 1\text{ mA}$
Cable resistance:	$\leq 50\ \Omega$
EC Approval Certificate:	TÜV 99 ATEX 1398
ATEX marking:	EX II 2G Ex ia IIC T6 Ta: -20 °C ... 70 °C
Hazardous area category:	2G
Input voltage U_i max.:	16 V ³⁾
Input power P_i max.:	100 mW ⁴⁾
Input current I_i max.:	30 mA ⁵⁾
Internal capacitance C_i max.:	15 nF ⁶⁾
Internal inductance L_i max.:	35 μH ⁷⁾
Nominal voltage:	8.2 V DC
Wire-break protection:	1
Items supplied:	Fastening nuts (2 x)

¹⁾ Of V_S ²⁾ Von Sr (VS und Ta constant) ^{3) 4) 5) 6) 7)} For connection to a sperately certified intrinsically safe circuit only

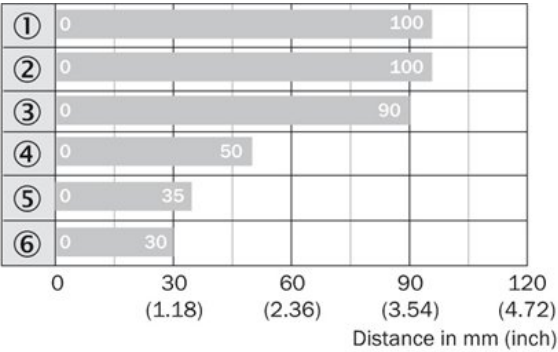
Dimensional drawing



Connection diagram



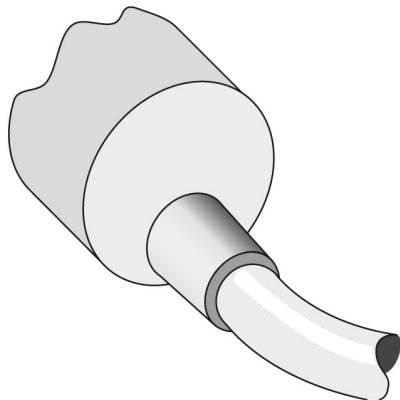
Operating distance



■ 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

Connection type



Australia

Phone +61 3 9457 0600
1800 334 802 – tollfree
E-Mail sales@sick.com.au

Belgium/Luxembourg

Phone +32 (0)2 466 55 66
E-Mail info@sick.be

Brasil

Phone +55 11 3215-4900
E-Mail sac@sick.com.br

Canada

Phone +1 905 771 14 44
E-Mail information@sick.com

Ceská Republika

Phone +420 2 57 91 18 50
E-Mail sick@sick.cz

China

Phone +86 4000 121 000
E-Mail info.china@sick.net.cn
Phone +852-2153 6300
E-Mail ghk@sick.com.hk

Danmark

Phone +45 45 82 64 00
E-Mail sick@sick.dk

Deutschland

Phone +49 211 5301-301
E-Mail kundenservice@sick.de

España

Phone +34 93 480 31 00
E-Mail info@sick.es

France

Phone +33 1 64 62 35 00
E-Mail info@sick.fr

Great Britain

Phone +44 (0)1727 831121
E-Mail info@sick.co.uk

India

Phone +91-22-4033 8333
E-Mail info@sick-india.com

Israel

Phone +972-4-6801000
E-Mail info@sick-sensors.com

Italia

Phone +39 02 27 43 41
E-Mail info@sick.it

Japan

Phone +81 (0)3 3358 1341
E-Mail support@sick.jp

Magyarország

Phone +36 1 371 2680
E-Mail office@sick.hu

Nederlands

Phone +31 (0)30 229 25 44
E-Mail info@sick.nl

Norge

Phone +47 67 81 50 00
E-Mail austefjord@sick.no

Österreich

Phone +43 (0)22 36 62 28 8-0
E-Mail office@sick.at

Polska

Phone +48 22 837 40 50
E-Mail info@sick.pl

România

Phone +40 356 171 120
E-Mail office@sick.ro

Russia

Phone +7-495-775-05-30
E-Mail info@sick.ru

Schweiz

Phone +41 41 619 29 39
E-Mail contact@sick.ch

Singapore

Phone +65 6744 3732
E-Mail admin@sicksgp.com.sg

Slovenija

Phone +386 (0)1-47 69 990
E-Mail office@sick.si

South Africa

Phone +27 11 472 3733
E-Mail info@sickautomation.co.za

South Korea

Phone +82 2 786 6321/4
E-Mail info@sickkorea.net

Suomi

Phone +358-9-25 15 800
E-Mail sick@sick.fi

Sverige

Phone +46 10 110 10 00
E-Mail info@sick.se

Taiwan

Phone +886-2-2375-6288
E-Mail sales@sick.com.tw

Türkiye

Phone +90 (216) 528 50 00
E-Mail info@sick.com.tr

United Arab Emirates

Phone +971 (0) 4 8865 878
E-Mail info@sick.ae

USA/México

Phone +1(952) 941-6780
1 800-325-7425 – tollfree
E-Mail info@sickusa.com

More representatives and agencies
at www.sick.com