



**Magnetic proximity sensors**  
**Cylindrical threaded housing, MM12**

MM12-90ANS-ZU0



**Model Name** > **MM12-90ANS-ZU0**  
**Part No.** > **1051013**



**At a glance**

- Detection of magnets
- Operating distances up to 90 mm or more based on the magnet strength
- High switching frequency
- Short-circuit, reverse polarity and power-up pulse suppression protection
- Robust nickel-plated brass housing with fine thread M12 x 1 mm
- IP 67 enclosure rating
- Cylindrical design
- PNP or NPN output

**Your benefits**

- Non-contact operation eliminates interference from dirt, dust and vibrations, increasing sensor life and reducing maintenance costs
- Space-saving installation due to small design
- Large operating distances with reliable switching increase throughput
- Non-contact, universal detection through several substances, including plastic containers and pipes protective PTFE walls and non-magnetic metal walls



**Features**

Thread size:	M12 x 1
Housing:	Cylindrical
Sensing range Sn:	90 mm <sup>1)</sup>
Assured sensing range Sa:	72.9 mm
Magnetic sensitivity:	0.6 mT
Switching frequency:	5,000 Hz
Output type:	NPN
Output function:	NO
Electrical wiring:	DC 3-wire
Enclosure rating:	IP 67 <sup>2)</sup>
Magnetic alignment:	Axial
Connection type:	Cable, 3-wire, 2 m <sup>3)</sup>
Housing:	Advanced

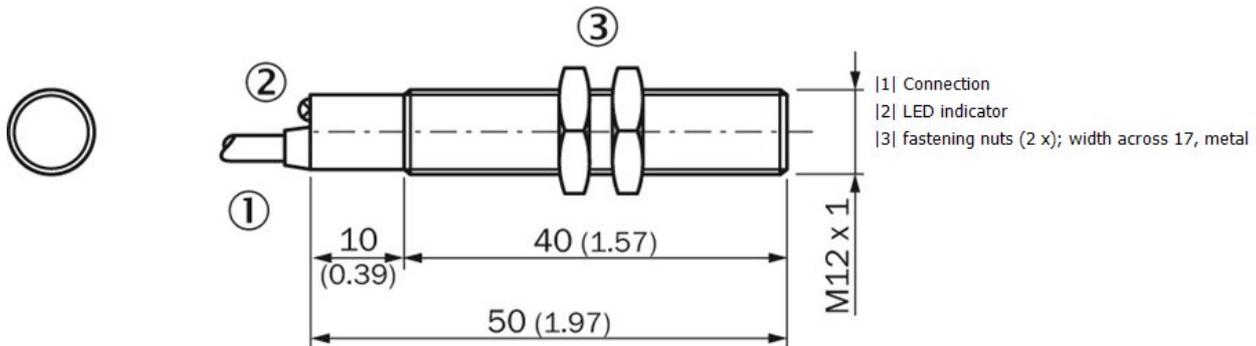
<sup>1)</sup> Sensing range based on installation in non-magnetic material using Magnet MAG-3010-B (M4.0) <sup>2)</sup> According to EN 60529 <sup>3)</sup> Do not bend below 0 °C

**Mechanics/electronics**

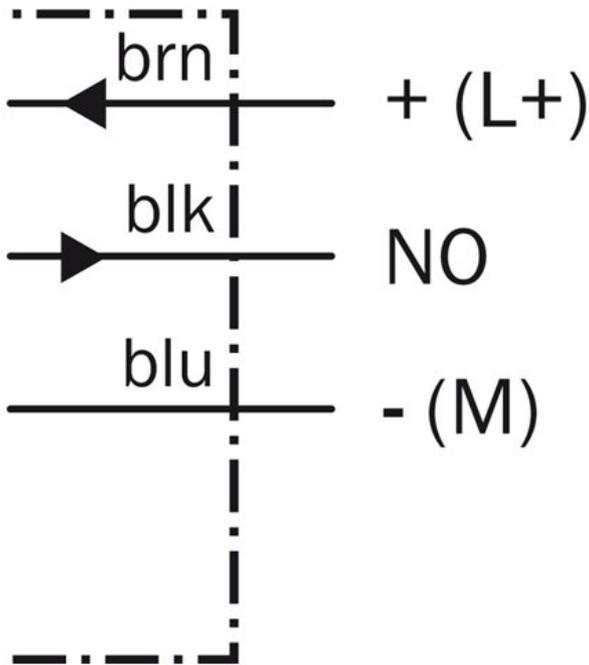
Housing length:	50 mm
Supply voltage:	10 V DC ... 30 V DC
Ripple:	$\leq 10\%$ <sup>1)</sup>
Power consumption:	$\leq 10\text{ mA}$ <sup>2)</sup>
Voltage drop:	$\leq 1.5\text{ V}$ <sup>3)</sup>
Output current $I_a$ :	$\leq 300\text{ mA}$
Hysteresis:	1 % ... 10 %
Repeatability:	$\leq 1\%$ <sup>4)</sup>
Temperature drift (% of $S_r$ ):	$\pm 10\%$
EMC:	According to EN 60947-5-2
Tightening torque, max.:	7 Nm
Reverse polarity protection:	✓
Short-circuit protection <sup>5)</sup> :	✓
Housing material:	Metal, Nickel-plated brass
Power-up pulse protection:	✓
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
Cable material:	PUR/PVC
Wire-break protection:	0
Items supplied:	Fastening nuts (2 x)

1) Of  $V_S$  2) Without load 3) At  $I_a \text{ max}$  4) Von  $S_r$  (VS und Ta constant) 5) Pulsed

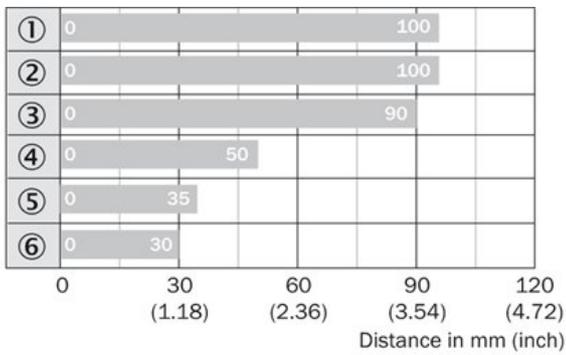
### Dimensional drawing



Connection diagram



Operating distance



■ Max. sensing range S<sub>n</sub>, 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

**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](http://www.sick.com)