



## Magnetic proximity sensors Cylindrical threaded housing, MM18

MM18-70APO-ZCKS01



**Model Name** > [MM18-70APO-ZCKS01](#)  
**Part No.** > [1049025](#)



#### At a glance

- Detection of magnets
- Operating distances up to 70 mm; Advanced series up to 120 mm or more based on the magnet strength
- Short-circuit, reverse polarity and power-up pulse suppression protection
- Robust nickel-plated brass housing with fine thread M18 x 1 mm
- IP 67 enclosure rating
- PNP or NPN output
- High switching frequency
- LED status indicator

#### 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:              | M18 x 1              |
| Housing:                  | Cylindrical          |
| Sensing range Sn:         | 70 mm <sup>1)</sup>  |
| Assured sensing range Sa: | 56.7 mm              |
| Magnetic sensitivity:     | 0.7 mT               |
| Switching frequency:      | 1,000 Hz             |
| Output type:              | PNP                  |
| Output function:          | NC                   |
| Electrical wiring:        | DC 3-wire            |
| Enclosure rating:         | IP 67 <sup>2)</sup>  |
| Magnetic alignment:       | Axial                |
| Connection type:          | Connector M12, 4-pin |
| Housing:                  | Standard             |

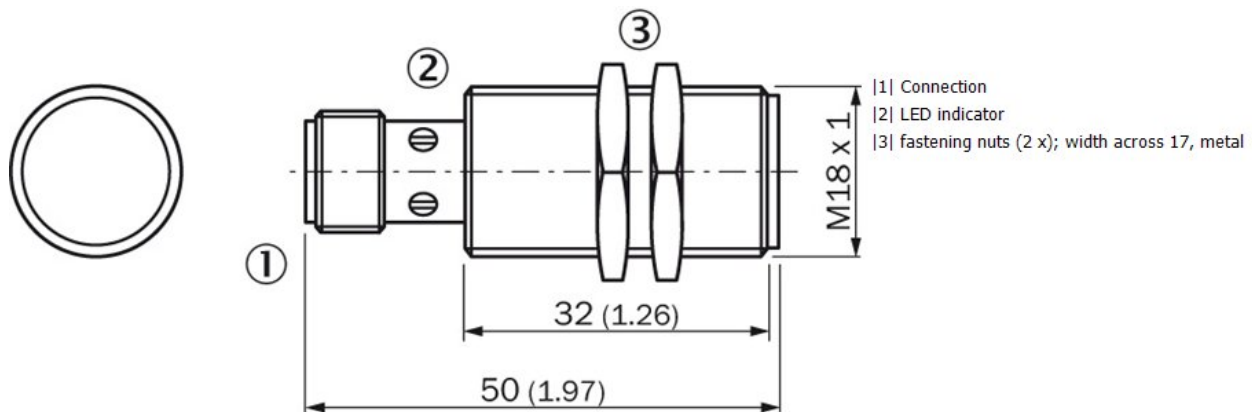
<sup>1)</sup> Sensing range based on installation in non-magnetic material using Magnet MAG-3010-B (M4.0) <sup>2)</sup> According to EN 60529

#### Mechanics/electronics

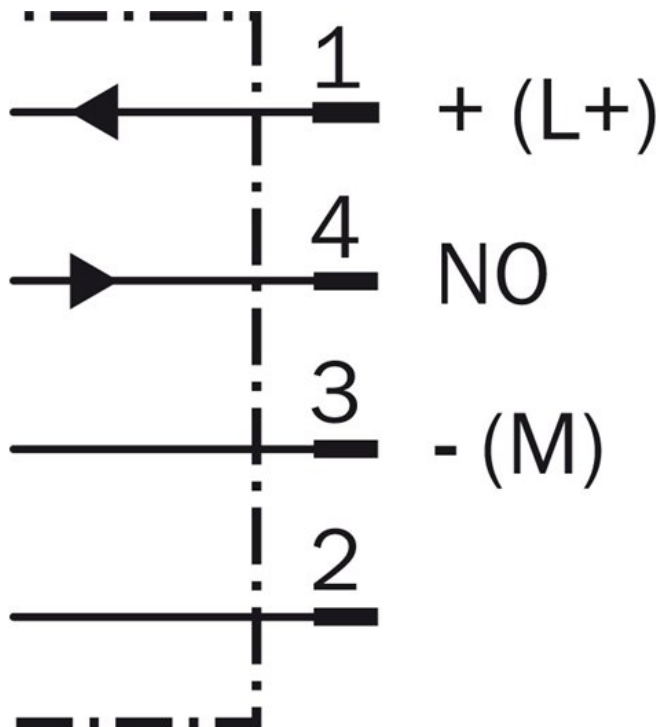
|                                          |                                   |
|------------------------------------------|-----------------------------------|
| Housing length:                          | 50 mm                             |
| Supply voltage:                          | 10 V DC ... 30 V DC               |
| Ripple:                                  | $\leq 10\%$ <sup>1)</sup>         |
| Power consumption:                       | $\leq 10\text{ mA}$ <sup>2)</sup> |
| Voltage drop:                            | $\leq 2\text{ V}$ <sup>3)</sup>   |
| Output current $I_a$ :                   | $\leq 200\text{ mA}$              |
| 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.:                 | 40 Nm                             |
| Reverse polarity protection:             | ✓                                 |
| Short-circuit protection <sup>5)</sup> : | ✓                                 |
| Housing material:                        | Metal, Nickel-plated brass        |
| Special feature:                         | Short version                     |
| Power-up pulse protection:               | ✓                                 |
| Time delay before availability:          | $\leq 20\text{ ms}$               |
| Ambient operating temperature:           | -25 °C ... 75 °C                  |
| Shock/vibration:                         | 30 g, 11 ms/10 ... 55 Hz, 1 mm    |
| Wire-break protection:                   | 0                                 |
| Items supplied:                          | Fastening nuts (2 x)              |

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

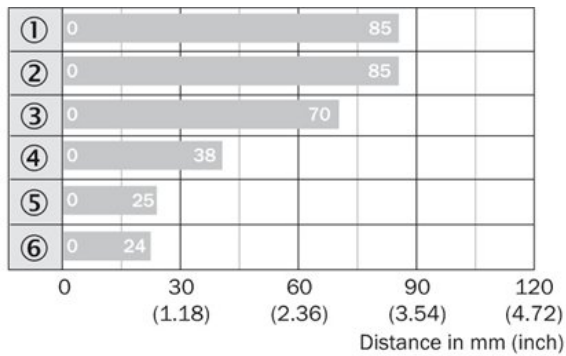
## Dimensional drawing



## Connection diagram



## Operating distance

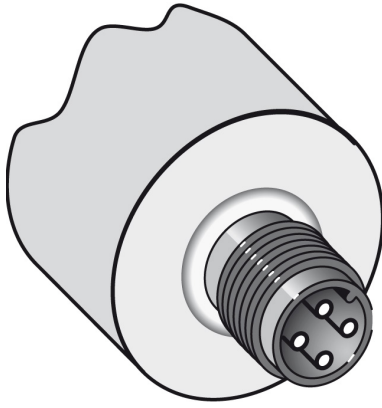


■ Max. sensing range  $S_n$ , flush or non-flush installation, non-magnetizable material

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