



## Inductive proximity sensors Cylindrical threaded housing, IMP05

IMP05-01BPSVU2S



**Model Name** > [IMP05-01BPSVU2S](#)  
**Part No.** > [6050109](#)



#### At a glance

- Pressure resistant up to 500 bar
- Expected service life of up to 1 million pressure cycles
- Expanded temperature range of up to 100 °C
- Sensing range of 1 mm flush
- IP 68
- Stainless steel housing with active surface made from stable high-performance ceramic
- State-of-the-art ASIC technology from SICK
- Gas-tight at the sensor face

#### Your benefits

- Reduced maintenance costs
- Extremely resilient and durable
- Up to 50 times longer service life compared to conventional sensors under pressure cycles
- Simple compensation of cylinder tolerances
- Simple integration due to small design
- Controlled piston deceleration
- Increased piston service life due to collision prevention at the end of the work cycle



#### Features

|                           |                     |
|---------------------------|---------------------|
| Housing:                  | Cylindrical         |
| Thread size:              | M5 x 0.5            |
| Sensing range Sn:         | 1 mm                |
| Assured sensing range Sa: | 0.8 mm              |
| Pressure resistance:      | ≤ 500 bar           |
| Installation type:        | Flush               |
| Switching frequency:      | 1,000 Hz            |
| Output type:              | PNP                 |
| Output function:          | NO                  |
| Electrical wiring:        | DC 3-wire           |
| Enclosure rating:         | IP 68 <sup>1)</sup> |
| Connection type:          | Cable, 3-wire, 2 m  |

<sup>1)</sup> Sensing face

## Mechanics/electronics

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|                                 |                                   |
|---------------------------------|-----------------------------------|
| Supply voltage:                 | 10 V DC ... 30 V DC <sup>1)</sup> |
| Vacuum resistance:              | 10-8Torr <sup>1)</sup>            |
| Ripple:                         | ≤ 20 % <sup>2)</sup>              |
| Voltage drop:                   | ≤ 2 V <sup>3)</sup>               |
| Power consumption:              | ≤ 10 mA <sup>4)</sup>             |
| Time delay before availability: | ≤ 30 ms                           |
| Hysteresis:                     | 1 % ... 15 % <sup>5)</sup>        |
| Repeatability:                  | ≤ 5 % <sup>6) 7)</sup>            |
| Temperature drift (% of Sr):    | ± 10 %, ± 15 % <sup>8) 9)</sup>   |
| EMC:                            | According to EN 60947-5-2         |
| Output current Ia:              | ≤ 200 mA                          |
| Cable material:                 | PUR                               |
| Conductor cross-section:        | 0.14 mm <sup>2</sup>              |
| Cable diameter:                 | Ø 3.5 mm                          |
| Short-circuit protection:       | ✓                                 |
| Reverse polarity protection:    | ✓                                 |
| Power-up pulse protection:      | -                                 |
| Shock/vibration:                | 30 g, 11 ms/10 ... 55 Hz, 1 mm    |
| Ambient operating temperature:  | -25 °C ... 100 °C                 |
| Housing material:               | Stainless steel, Phynox           |
| Housing cap material:           | Ceramics, ZrO <sub>2</sub>        |
| Size support ring:              | 7.5 mm x 4.4 mm x 1 mm            |
| Material support ring:          | FPM                               |
| Housing length:                 | 27 mm                             |
| Thread length:                  | 5 mm                              |
| Tightening torque, max.:        | ≤ 5 Nm                            |

<sup>1)</sup> Front <sup>2)</sup> Of V<sub>S</sub> <sup>3)</sup> With Ia = 200 mA <sup>4)</sup> Without load <sup>5)</sup> Typ. 8% <sup>6) 7)</sup> <sup>8)</sup> -25 °C...+70 °C <sup>9)</sup> +70 °C...+100 °C

## Reduction factors

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|                             |                                                |
|-----------------------------|------------------------------------------------|
| Note:                       | The values are reference values which may vary |
| Carbon steel St37 (Fe):     | 1                                              |
| Stainless steel (V2A, 304): | 0                                              |
| Copper (Cu):                | 0                                              |
| Aluminum (Al):              | 0                                              |
| Brass (Br):                 | 0                                              |

## Installation note

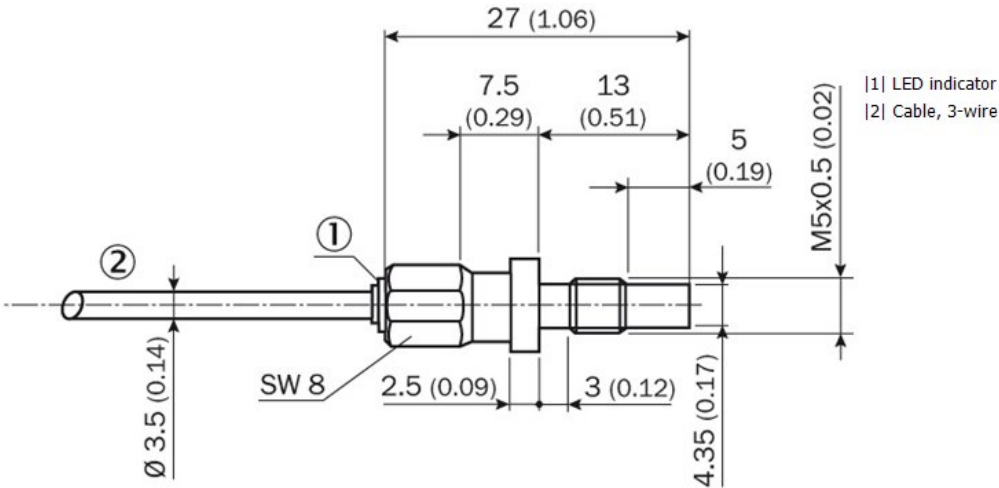
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|         |                                       |
|---------|---------------------------------------|
| Remark: | Associated graphic see "Installation" |
|---------|---------------------------------------|

Installation note



Dimensional drawing





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