



## Inductive proximity sensors Cylindrical threaded housing, IM12

IM12-06BPO-ZW1



**Model Name** > IM12-06BPO-ZW1  
**Part No.** > 6027510



#### At a glance

- Triple operating distance up to 10 mm
- Operating temperature from -25 °C to +70 °C
- High switching frequencies
- Sizes M12

#### Your benefits

- Reduced machine downtime and maintenance costs
- Large operating reserve due to triple operating distance improves machine throughput - no missed targets
- Saves installation space on the machine. Less space required for the same operating distance when compared with standard sensors
- Lower risk of mechanical damage due their ability to be mounted further from the target
- High level of sensitivity makes them suitable for detecting difficult parts such as wires, thin sheets, small screws – reduces design and installation time



#### Features

|                           |                           |
|---------------------------|---------------------------|
| Housing:                  | Cylindrical               |
| Thread size:              | M12 x 1                   |
| Sensing range Sn:         | 6 mm                      |
| Assured sensing range Sa: | 4.86 mm                   |
| Installation type:        | Quasi-flush <sup>1)</sup> |
| Switching frequency:      | 800 Hz                    |
| Output type:              | PNP                       |
| Output function:          | NC                        |
| Electrical wiring:        | DC 3-wire                 |
| Enclosure rating:         | IP 67 <sup>2)</sup>       |
| Connection type:          | Cable, 3-wire, 2 m        |
| Housing:                  | Standard                  |

<sup>1)</sup> When installed in conductive materials, sensors must protrude by distance E (E = 2 mm) <sup>2)</sup> According to EN 60529

#### Mechanics/electronics

|                    |                       |
|--------------------|-----------------------|
| Supply voltage:    | 10 V DC ... 30 V DC   |
| Ripple:            | ≤ 20 % <sup>1)</sup>  |
| Voltage drop:      | ≤ 2 V <sup>2)</sup>   |
| Power consumption: | ≤ 10 mA <sup>3)</sup> |

|                                 |                                |
|---------------------------------|--------------------------------|
| Time delay before availability: | ≤ 50 ms                        |
| Hysteresis:                     | 1 % ... 15 %                   |
| Repeatability:                  | ≤ 5 % <sup>4) 5)</sup>         |
| Temperature drift (% of Sr):    | ± 10 %                         |
| EMC:                            | According to EN 60947-5-2      |
| Output current I <sub>a</sub> : | ≤ 200 mA                       |
| Cable material:                 | PVC                            |
| Conductor cross-section:        | 0.34 mm <sup>2</sup>           |
| Cable diameter:                 | 5 mm                           |
| Short-circuit protection:       | ✓                              |
| Reverse polarity protection:    | ✓                              |
| Power-up pulse protection:      | ✓                              |
| Shock/vibration:                | 30 g, 11 ms/10 ... 55 Hz, 1 mm |
| Adjustment indicator:           | -                              |
| Ambient operating temperature:  | -25 °C ... 70 °C               |
| Housing material:               | Metal, Chrome-plated brass     |
| Housing cap material:           | Plastic, PBTP                  |
| Housing length:                 | 50 mm                          |
| Thread length:                  | 50 mm                          |
| Tightening torque, max.:        | 10 Nm                          |

<sup>1)</sup> Of V<sub>S</sub> <sup>2)</sup> At I<sub>a</sub> max <sup>3)</sup> Without load <sup>4)</sup> Of Sr <sup>5)</sup> UB = 20 V DC ... 30 V DC, TA = 23 °C ± 5 °C <sup>6)</sup> LED lights continuously (0 ≤ s ≤ 0.8 Sr); LED flashing (0.8 Sr < s ≤ Sr)

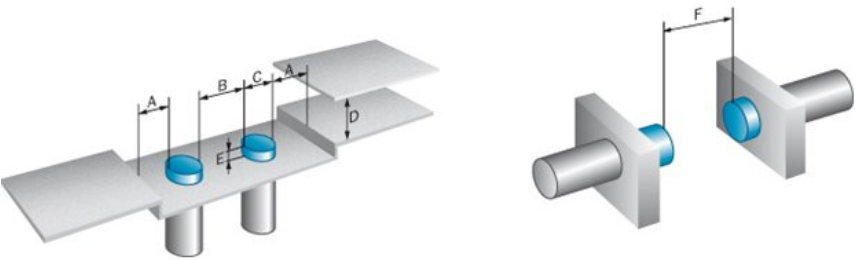
#### Reduction factors

|                              |                                                |
|------------------------------|------------------------------------------------|
| Note:                        | The values are reference values which may vary |
| Copper (Cu):                 | Ca. 0.25                                       |
| Aluminum (Al):               | Ca. 0.3                                        |
| Brass (Br):                  | Ca. 0.4                                        |
| Stainless steel (V4A, 316L): | Ca. 0.7                                        |

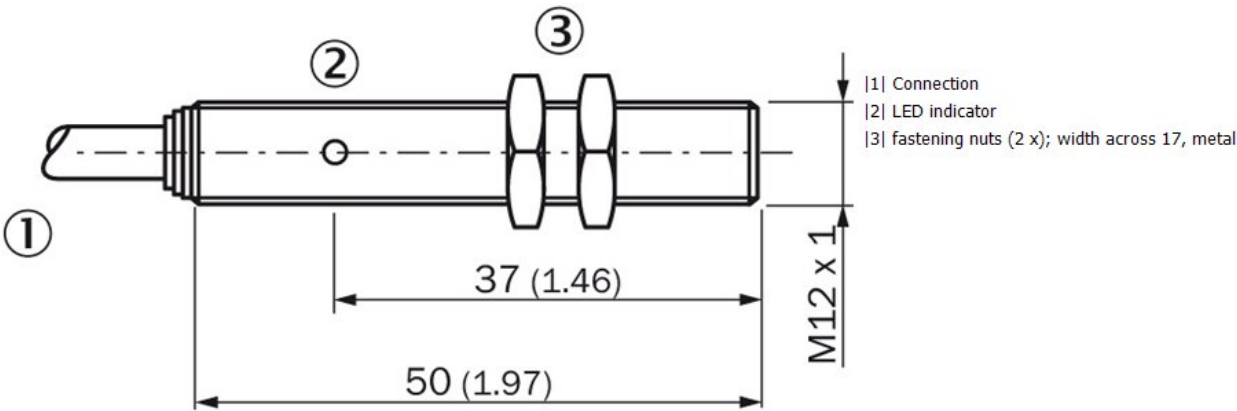
#### Installation note

|         |                                       |
|---------|---------------------------------------|
| A:      | 6 mm                                  |
| B:      | 18 mm                                 |
| C:      | 12 mm                                 |
| D:      | 18 mm                                 |
| E:      | 2 mm                                  |
| F:      | 60 mm                                 |
| Remark: | Associated graphic see "Installation" |

Installation note

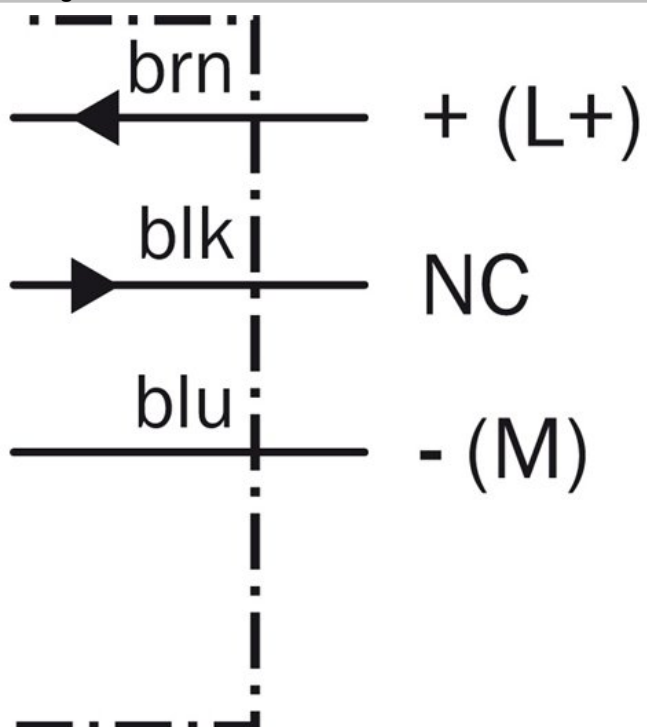


Dimensional drawing

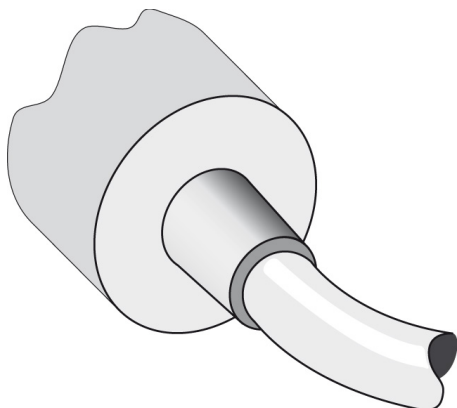


All dimensions in mm (inch)

## Connection diagram



## Connection type



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