



Inductive proximity sensors  
Cylindrical threaded housing, IMF12

IMF12-04BNPVCOS



**Model Name** > IMF12-04BNPVC0S  
**Part No.** > 6035220



**At a glance**

- Size M12
- Extremely watertight (IP 68/IP 69K)
- Extended temperature range (-40 to +80 °C). Tolerates short-term temperature increases up to 100 °C
- Stainless steel housing (316L/1.4404)
- Front cap made of PPS (FDA-certified material)
- Resistant to industrial cleaning agents, ECOLAB and JohnsonDiversey certified

**Your benefits**

- Reduced machine downtime
- Hygienic process due to FDA approved material and hygienic design
- Reduced maintenance costs due to sensor's resistance to aggressive cleaning cycles
- No restrictions on cleaning agents or processes, ensuring reliable operation



**Features**

|                           |                                    |
|---------------------------|------------------------------------|
| Design:                   | Cylindrical                        |
| Thread size:              | M12 x 1                            |
| Sensing range Sn:         | 4 mm                               |
| Assured sensing range Sa: | 3.24 mm                            |
| Installation type:        | Flush                              |
| Switching frequency:      | 2,000 Hz                           |
| Output type:              | NPN                                |
| Output function:          | Complementary                      |
| Electrical wiring:        | DC 4-wire                          |
| Enclosure rating::        | IP 68, IP 69K <sup>1) 2)</sup>     |
| Electrical connection:    | Connector M12, 4-pin <sup>3)</sup> |

<sup>1)</sup> According to EN 60529 <sup>2)</sup> According to EN40050 <sup>3)</sup> With gold plated contact pins

**Mechanics/electronics**

|                                 |                       |
|---------------------------------|-----------------------|
| Supply voltage:                 | 10 V ... 30 V         |
| Residual ripple:                | ≤ 10 %                |
| Voltage drop:                   | ≤ 2 V                 |
| Power consumption:              | ≤ 15 mA <sup>1)</sup> |
| Time delay before availability: | Ca. 50 ms             |

|                                 |   |
|---------------------------------|---|
| Hysteresis:                     | 1 % ... 20 %  |
| Repeatability:                  | 5 % <sup>2) 3)</sup>                                |
| Temperature drift (of Sr):      | ± 10 %  |
| EMC:                            | According to EN 60947-5-2                           |
| Output current I <sub>a</sub> : | ≤ 200 mA  |
| Short-circuit protection:       | ✓   |
| Reverse polarity protection:    | ✓   |
| Power-up pulse protection:      | ✓   |
| Shock and vibration resistance: | 30 g, 11 ms/10 Hz ... 55 Hz, 1 mm                   |
| Ambient temperature operation:  | -40 °C ... 80 °C <sup>4)</sup>                      |
| Housing material:               | Stainless steel, Stainless steel V4A (1.4404, 316L) |
| Housing cap material:           | PPS   |
| Housing length:                 | 65 mm   |
| Thread length:                  | 39 mm   |
| Tightening torque, max.:        | 20 Nm   |

1) Without load    2) U<sub>b</sub> and T<sub>a</sub> constant    3) Of Sr    4) +100 °C for 15 minutes

### Reduction factors

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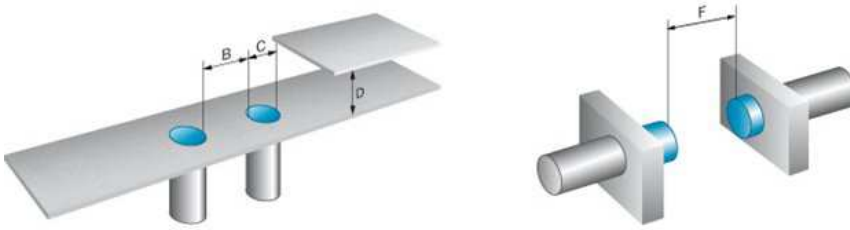
|                             |  |
|-----------------------------|--|
| Note:                       | The values are reference values which may vary |
| Stainless steel (V2A, 304): | Ca. 0.75                                       |
| Copper (Cu):                | Ca. 0.3  |
| Aluminum (Al):              | Ca. 0.35                                       |
| Brass (Br):                 | Ca. 0.4  |

### Installation note

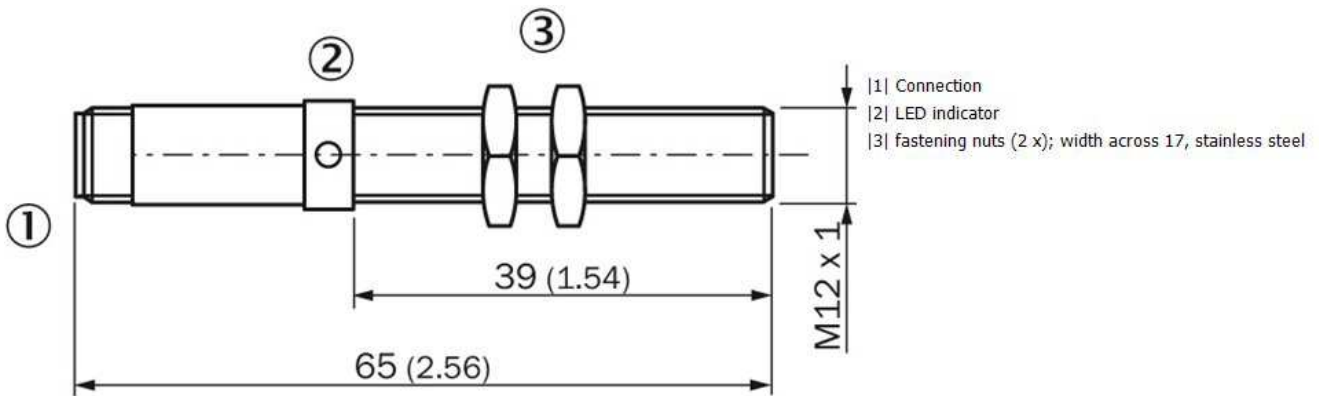
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|         |  |
|---------|--|
| A:      | 6 mm   |
| B:      | 12 mm  |
| C:      | 12 mm  |
| D:      | 12 mm  |
| E:      | Aluminium: 2.4 mm, Stainless steel: 0 mm, Brass: 2.4 mm, Steel: 0 mm |
| F:      | 32 mm  |
| Remark: | Associated graphic see "Installation"                                |

## Installation note

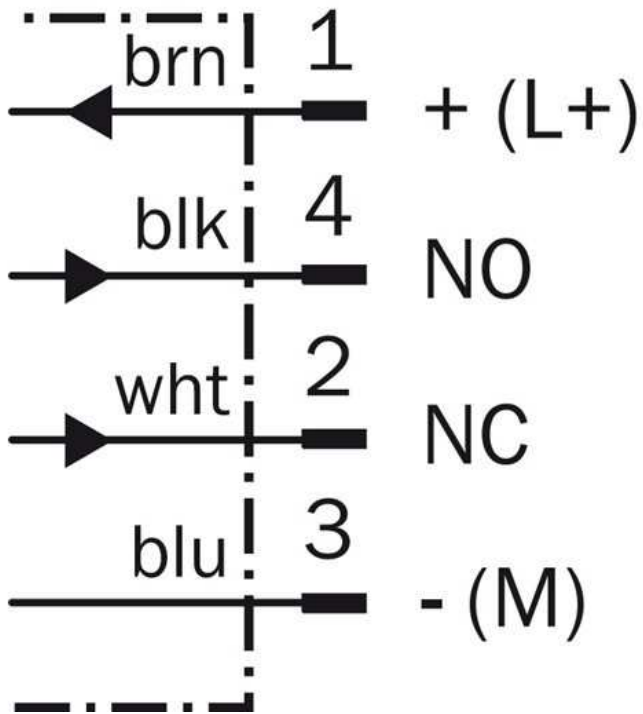


## Dimensional drawing

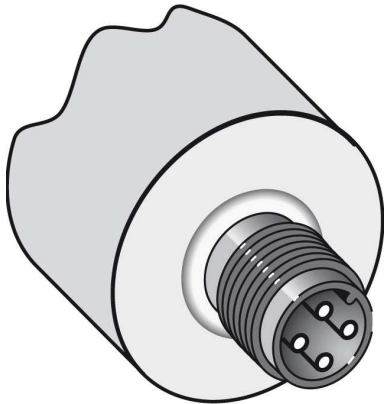


All dimensions in mm (inch)

Connection diagram



Connection type



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