



## Level sensors TDR level sensor

LFP2000-G2NMB



**Model Name** > **LFP2000-G2NMB**  
**Part No.** > **1056302**

#### At a glance

- Level monitoring in hygienic applications
- Manually cutable monoprobe made from stainless steel 1.4404 up to 2,000 mm long with Ra 0.8 µm
- Process temperature up to 150 °C, process pressure up to 16 bar
- CIP/SIP resistant
- IP 67 and IP 69K enclosure rating
- Interchangeable hygienic process connections
- 3-in-1: combined display, analog output and binary output
- Analog output 4 mA ... 20 mA / 0 V ... 10 V, switchable, plus two binary outputs

#### Your benefits

- Robust design increases service life
- High flexibility due to cutable probe and interchangeable connection concept
- Cost savings due to multiple output signals: one system for both level detection and continuous level monitoring
- Time and cost savings due to low maintenance and quick commissioning
- No calibration or recalibration required for commissioning, thus saving time and costs



*Illustration may differ*



#### Features

|                      |                    |
|----------------------|--------------------|
| Medium:              | Fluids             |
| Measurement:         | Switch, Continuous |
| Probe length:        | 2,000 mm           |
| Process pressure:    | -1 bar ... 16 bar  |
| Process temperature: | -20 °C ... 150 °C  |
| EHEDG approval:      | ✓                  |
| GOST approval:       | ✓                  |
| RoHS certificate:    | ✓                  |
| IO-Link:             | ✓                  |
| 3-A:                 | 0                  |

#### Performance

|                                     |                     |
|-------------------------------------|---------------------|
| Resolution:                         | < 2 mm              |
| Accuracy of sensor element:         | ± 5 mm              |
| Repeatability:                      | ≤ 2 mm              |
| Dielectricity constant:             | ≥ 5                 |
| Inactive area at process connector: | 25 mm <sup>1)</sup> |

|                             |                     |
|-----------------------------|---------------------|
| Inactive area at probe end: | 10 mm <sup>2)</sup> |
| Conductivity:               | No limitation       |
| Response time:              | < 400 ms            |

<sup>1)</sup> With parameterized tank with water under reference conditions, otherwise 40 mm <sup>2)</sup> With water under reference conditions

#### Mechanical data

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|                     |                          |
|---------------------|--------------------------|
| Housing material:   | 303                      |
| Max.probe load:     | 6 Nm                     |
| Process connection: | G ¾ A                    |
| Wetted parts:       | 316L (Ra ≤ 0,8 µm), PEEK |
| Housing design:     | With closed cover        |

#### Electrical data

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|                               |                                                                                                                     |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Temperature drift:            | < 0.1 mm/K                                                                                                          |
| Enclosure rating:             | IP 67: EN 60529, IP 69K: EN 40050                                                                                   |
| Supply voltage:               | 12 V DC ... 30 V DC <sup>1)</sup>                                                                                   |
| Power consumption:            | ≤ 75 mA at 24 V DC without output load                                                                              |
| Protection class:             | III                                                                                                                 |
| Initialization time:          | ≤ 2 s                                                                                                               |
| Output load:                  | 0 V ... 10 V > 750 Ohm at Uv ≥ 14 V, 4 mA ... 20 mA < 400 Ohm at Uv > 12 V, 4 mA ... 20 mA < 500 Ohm at Uv > 13,5 V |
| Upper signal level:           | 20 mA ... 20.5 mA                                                                                                   |
| Lower signal level:           | 3.8 mA ... 4 mA                                                                                                     |
| Hysteresis:                   | Min. 2 mm, free adjustable                                                                                          |
| Output current:               | < 100 mA                                                                                                            |
| Signal voltage HIGH:          | Vs - 2 V                                                                                                            |
| Signal voltage LOW:           | ≤ 2 V                                                                                                               |
| Capacitive load:              | 100 nF                                                                                                              |
| Inductive load:               | < 1 H                                                                                                               |
| Connection type:              | Round connector M12 x 1, 5-pin                                                                                      |
| EMC:                          | EN 61326-1:2006, 2004/108/EG                                                                                        |
| Interference resistance:      | EN 61000-6-2:2005                                                                                                   |
| Interference emission:        | EN 61000-6-4:2007                                                                                                   |
| Single- and continuous shock: | EN 60068-2-27                                                                                                       |

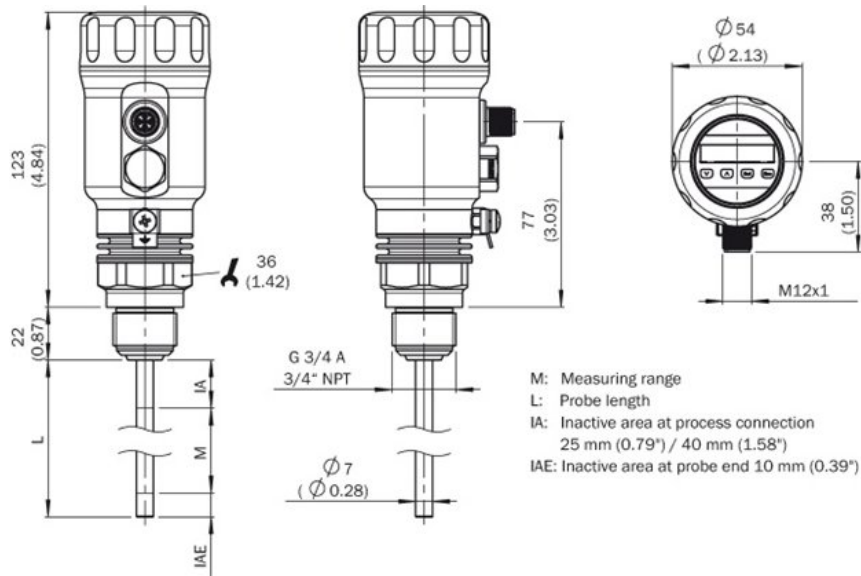
<sup>1)</sup> All connections are polarity protected. All outputs are overload and short-circuit protected.

#### Ambient data

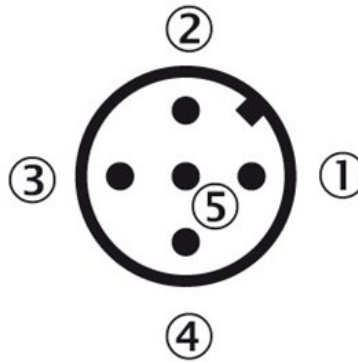
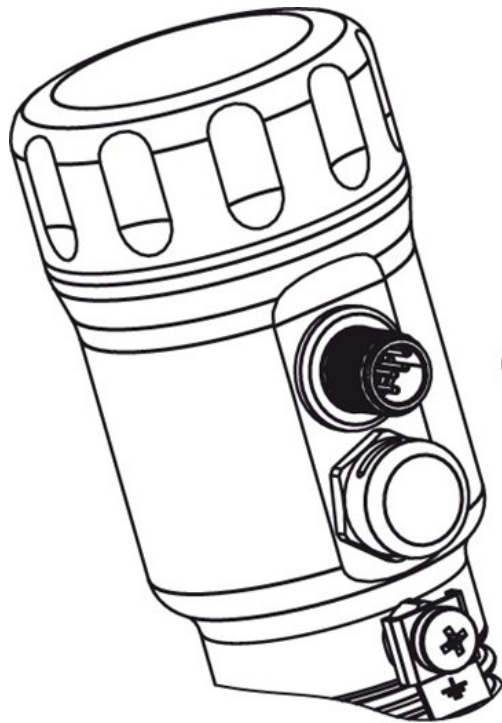
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|                                |                  |
|--------------------------------|------------------|
| Ambient operating temperature: | -20 °C ... 60 °C |
| Ambient storage temperature:   | -40 °C ... 80 °C |

## Dimensional drawing



## Connection type



- |1| L+: Supply voltage, brown
- |2| QA: Analog current-/voltage output, white
- |3| M: Ground, reference ground  
for current-/voltage output, blue
- |4| C/Q1: Switching output 1,  
PNP/IO-Link-communication, black
- |5| Q2: Switching output 2, PNP/NPN, grey

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