



Level sensors  
TDR level sensor

LFP1600-G1NMB

**Model Name** > **LFP1600-G1NMB**  
**Part No.** > **1052081**



**At a glance**

- Level monitoring in hygienic applications
- Manually cutable monoprobe up to 4,000 mm long with Ra 0.8 µm
- Process temperature up to 180 °C, process pressure up to 16 bar
- CIP/SIP resistant
- High enclosure rating IP 67 and IP 69K, autoclavable
- Interchangeable hygienic process connections
- 3 in 1: combined display, analog output and binary output
- Remote amplifier version with compact process connection

**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 without any calibration and quick commissioning Remote display of the measured value and space savings



**Features**

Medium:	Fluids
Measurement:	Switch, Continuous
Probe length:	1,600 mm
Process pressure:	-1 bar ... 16 bar
Process temperature:	-20 °C ... +150 °C
EHEDG approval:	✓
GOST approval:	✓
UL approval:	✓
RoHS certificate:	✓
IO-Link:	✓
3-A:	-
Design:	Standard

**Performance**

Resolution:	< 2 mm
Accuracy of sensor element:	± 5 mm
Repeatability:	≤ 2 mm
Dielectricity constant:	≥ 1.8 with coaxial tube, ≥ 5 for mono probe

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>3)</sup>
MTTF:	194.3 a (EN ISO 13849-1)

<sup>1)</sup> With parameterized tank with water under reference conditions, otherwise 40 mm <sup>2)</sup> With water under reference conditions <sup>3)</sup> Depending on measuring mode (high speed < 400 ms, high accuracy < 2,800 ms).

### Mechanical data

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Housing material:	303
Max.probe load:	6 Nm
Process connection:	G 3/4 A
Wetted parts:	316L (Ra ≤ 0,8 μm), PEEK
Housing design:	With PMMA viewing window

### 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

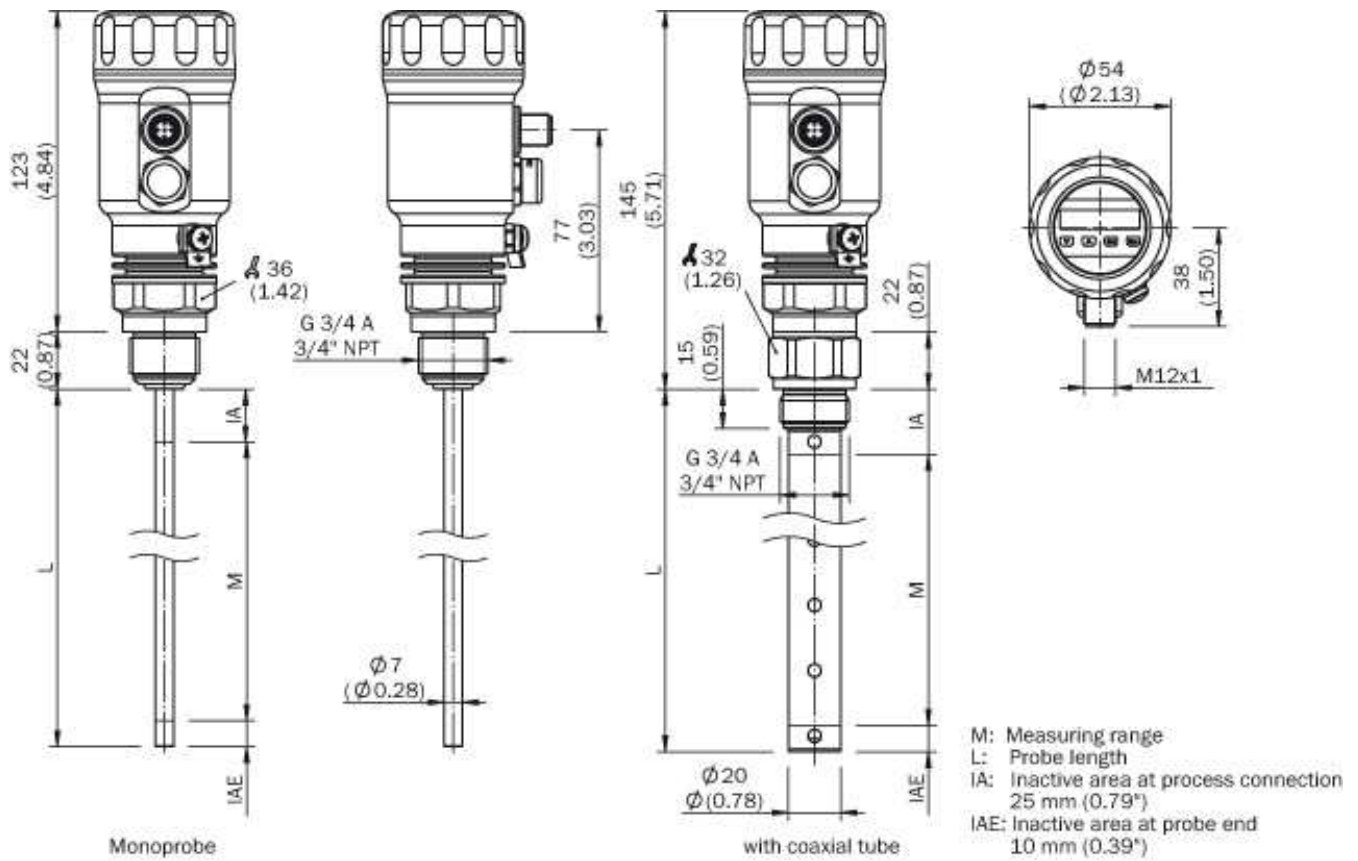
<sup>1)</sup> All connections are polarity protected. All outputs are overload and short-circuit protected.

### Ambient data

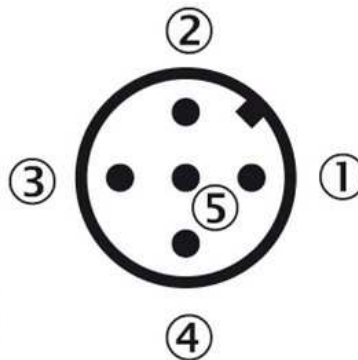
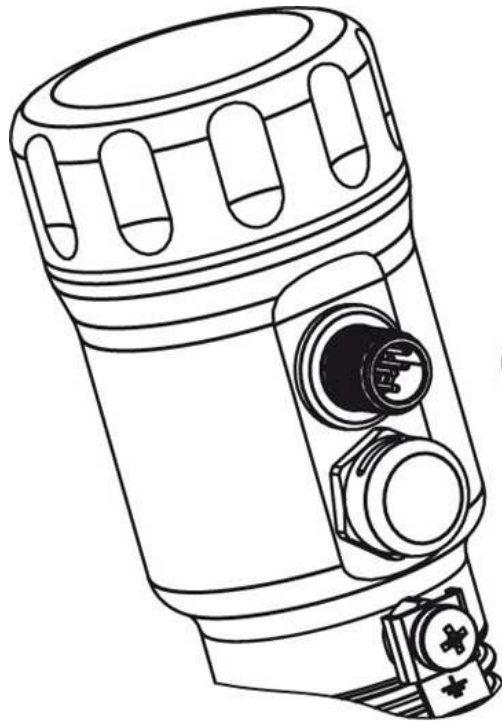
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Ambient operating temperature:	-20 °C ... +60 °C
Ambient storage temperature:	-40 °C ... +80 °C

## 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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