



Level sensors  
TDR level sensor

LFP1800-B5NMC



**Model Name** > LFP1800-B5NMC  
**Part No.** > 1062280



*Illustration may differ*

**At a glance**

- No mechanical moving parts
- Manually cuttable and exchangeable monoprobe with lengths from 200 mm up to 2,000 mm
- Immune to deposit formation
- Process temperature up to 100 °C; process pressure up to 10 bar
- Small inactive areas, ideal for small containers
- Accurate measurement, even when liquid type changes
- 3-in-1: combined display, analog output (acc. NAMUR NE 43) and binary output
- High enclosure rating of IP 67, rotatable housing

**Your benefits**

- Rugged design increases service life
- High flexibility due to cuttable and exchangeable monoprobe
- 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
- Compact and rotatable housing ensures flexible installation
- No crosstalk when several sensors are mounted next to each other
- Advanced technology enables adjustment-free measurement of oil- and water-based liquids



**Features**

Medium:	Fluids
Measurement:	Switch, Continuous
Probe length:	1,800 mm
Process pressure:	-1 bar ... 10 bar
Process temperature:	-20 °C ... 100 °C
GOST approval:	✓
RoHS certificate:	✓
IO-Link:	✓

**Performance**

Maximum level change:	500 mm/s
Resolution:	< 2 mm
Accuracy of sensor element:	± 5 mm <sup>1)</sup>

Repeatability:	≤ 2 mm
Dielectricity constant:	≥ 1.8 with coaxial tube, ≥ 5 for mono probe
Inactive area at process connector:	25 mm <sup>2)</sup>
Inactive area at probe end:	10 mm <sup>3)</sup>
Conductivity:	No limitation
Response time:	< 400 ms

1) <sup>3)</sup> With water under reference conditions    2) With parameterized tank with water under reference conditions, otherwise 40 mm

### Mechanical data

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Housing material:	Plastic PBT
Max.probe load:	6 Nm
Process connection:	¾" NPT
Wetted parts:	1.4404, PTFE

### Electrical data

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Temperature drift:	< 0.1 mm/K
Enclosure rating:	IP 67: EN 60529
Supply voltage:	12 V DC ... 30 V DC <sup>1)</sup>
Power consumption:	≤ 100 mA at 24 V DC without output load
Protection class:	III
Initialization time:	≤ 5 s
Output signal:	1 PNP transistor output (Q1) und 3 PNP/NPN transistor output (Q2...Q4) switchable, Analog output 4 mA ... 20 mA, 0 V ... 10 V automatic switching to a current or voltage output depending on the load.
Output load:	0 V ... 10 V > 750 Ohm at U <sub>v</sub> ≥ 14 V, 4 mA ... 20 mA < 350 Ohm at U <sub>v</sub> > 12 V, 4 mA ... 20 mA < 500 Ohm at U <sub>v</sub> > 15 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:	V <sub>s</sub> - 2 V
Signal voltage LOW:	≤ 2 V
Capacitive load:	100 nF
Inductive load:	< 1 H
Connection type:	Round connector M12 x 1, 8-pin
EMC:	EN 61326-1:2006, 2004/108/EG

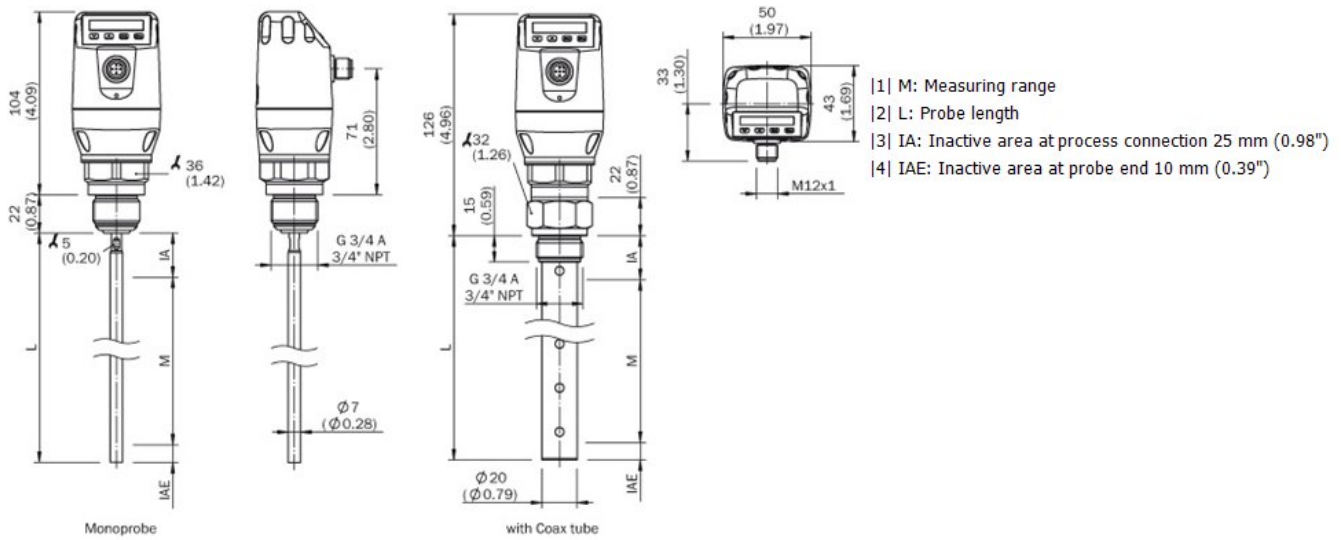
<sup>1)</sup> All connections are polarity protected. All outputs are overload and short-circuit protected.

### Ambient data

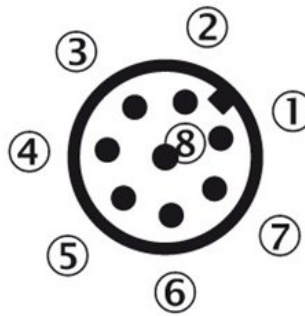
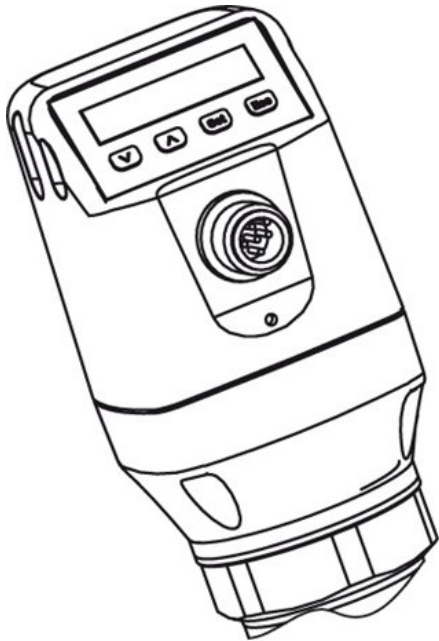
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Ambient operating temperature:	-20 °C ... 60 °C
Ambient storage temperature:	-40 °C ... 80 °C

## Dimensional drawing



## Connection type



- |1| L+: Supply voltage
- |2| Q2: Switching output 2, PNP/NPN
- |3| M: Ground, reference ground for current-/voltage output
- |4| C/Q1: Switching output 1, PNP/IO-Link-communication
- |5| Q3: Switching output 3, PNP/NPN
- |6| Q4: Switching output 4, PNP/NPN
- |7| QA: Analog current-/voltage output
- |8| No function

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