



Level sensors TDR level sensor

LFP1200-N1NMB



Model Name > LFP1200-N1NMB
Part No. > 1059417



Illustration may differ

At a glance

- Level monitoring in hygienic applications
- Manually cutable monoprobe made from stainless steel 1.4404 up to 4,000 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



Features

Medium:	Fluids
Measurement:	Switch, Continuous
Probe length:	1,200 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:	-

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 ¹⁾
Inactive area at probe end:	10 mm ²⁾
Conductivity:	No limitation
Response time:	< 400 ms ³⁾
MTTF:	194.3 a (EN ISO 13849-1)

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

Mechanical data

Housing material:	303
Max.probe load:	6 Nm
Process connection:	¾" NPT
Wetted parts:	316L (Ra ≤ 0,8 µm), PEEK
Housing design:	With PMMA viewing window

Electrical data

Temperature drift:	< 0.1 mm/K
Enclosure rating:	IP 67: EN 60529, IP 69K: EN 40050
Supply voltage:	12 V DC ... 30 V DC ¹⁾
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

¹⁾ All connections are polarity protected. All outputs are overload and short-circuit protected.

Ambient data

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

Technical drawings of three probe models with dimensions in mm and inches:

- Monoprobe:**
 - Total length: 123 (4.84)
 - Probe length: L
 - Inactive area at process connection (IA): 25 mm (0.79")
 - Inactive area at probe end (IAE): 10 mm (0.39")
 - Thread: G 3/4 A 3/4" NPT
 - Flange diameter: 36 (1.42)
 - Flange thickness: 22 (0.87)
 - Probe diameter: 7 (0.28)
- with coaxial tube:**
 - Total length: 145 (5.71)
 - Probe length: L
 - Inactive area at process connection (IA): 25 mm (0.79")
 - Inactive area at probe end (IAE): 10 mm (0.39")
 - Thread: G 3/4 A 3/4" NPT
 - Flange diameter: 32 (1.26)
 - Flange thickness: 22 (0.87)
 - Coaxial tube diameter: 20 (0.78)
 - Coaxial tube length: 15 (0.59)
- Cross-section view:**
 - Outer diameter: 54 (2.13)
 - Height: 38 (1.50)
 - Thread: M12x1

Legend:

- M: Measuring range
- L: Probe length
- IA: Inactive area at process connection 25 mm (0.79")
- IAE: Inactive area at probe end 10 mm (0.39")

The diagram shows the sensor head on the left and a circular 5-pin connector on the right. The connector has five pins arranged in a circle, with a central pin labeled 5. The pins are numbered 1 through 5, corresponding to the legend:

- [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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