



## Level sensors TDR level sensor

LFP1300-A5NMC



**Model Name** > LFP1300-A5NMC  
**Part No.** > 1062256



*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:        | 1,300 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) 3) With water under reference conditions    2) With parameterized tank with water under reference conditions, otherwise 40 mm

### Mechanical data

|                     |              |
|---------------------|--------------|
| Housing material:   | Plastic PBT  |
| Max.probe load:     | 6 Nm         |
| Process connection: | G ¾ A        |
| Wetted parts:       | 1.4404, PTFE |

### Electrical data

|                      |                                                                                                                                                                                                         |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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 Uv ≥ 14 V, 4 mA ... 20 mA < 350 Ohm at Uv > 12 V, 4 mA ... 20 mA < 500 Ohm at Uv > 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: | Vs - 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.

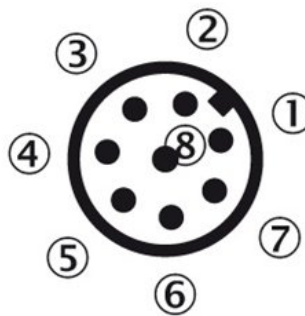
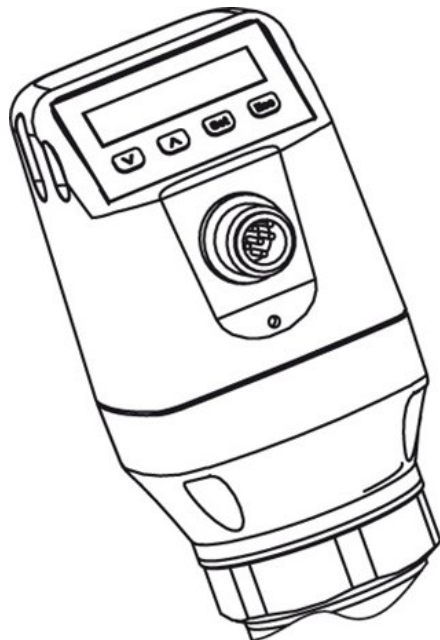
### Ambient data

|                                |                  |
|--------------------------------|------------------|
| 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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