



## Level sensors TDR level sensor

LFP0200-B5NMC



**Model Name** > LFP0200-B5NMC  
**Part No.** > 1062264



*Illustration may differ*

#### At a glance

- Level sensor for fluids
- No mechanical moving parts
- Manually cuttable and exchangeable probe with lengths from 200 mm up to 2,000 mm or rope probe up to 4,000 mm
- Resistant to deposit formation
- Process temperature up to 100 °C; process pressure up to 10 bar
- 3 in 1: combined display, analog output (acc. NAMUR NE 43) and binary output
- High enclosure rating of IP 67, rotatable housing and remote amplifier version

#### Your benefits

- Rugged design increases service life
- High flexibility due to cuttable and exchangeable monoprobe or rope probe
- 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 without calibration
- Titanium process connection brings high chemical resistance
- Compact and rotatable housing or remote amplifier ensures flexible installation
- No crosstalk when several sensors are mounted next to each other
- Advanced technology enables adjustment-free measurement



#### Features

|                      |                    |
|----------------------|--------------------|
| Medium:              | Fluids             |
| Measurement:         | Switch, Continuous |
| Probe type:          | Mono rod probe     |
| Probe length:        | 200 mm             |
| Process pressure:    | -1 bar ... 10 bar  |
| Process temperature: | -20 °C ... +100 °C |
| GOST approval:       | ✓                  |
| CULus certificate:   | ✓                  |
| RoHS certificate:    | ✓                  |
| IO-Link:             | ✓                  |
| Design:              | Standard           |

#### Performance

|                       |          |
|-----------------------|----------|
| Maximum level change: | 500 mm/s |
| Resolution:           | < 2 mm   |

|                                     |                                                                      |
|-------------------------------------|----------------------------------------------------------------------|
| Accuracy of sensor element:         | $\pm 5 \text{ mm}$ <sup>1)</sup>                                     |
| Repeatability:                      | $\leq 2 \text{ mm}$                                                  |
| Dielectricity constant:             | $\geq 1.8$ with coaxial tube, $\geq 5$ for mono rod probe/rope probe |
| Inactive area at process connector: | $25 \text{ mm}$ <sup>2)</sup>                                        |
| Inactive area at probe end:         | $10 \text{ mm}$ <sup>3)</sup>                                        |
| Conductivity:                       | No limitation                                                        |
| Response time:                      | $< 400 \text{ ms}$                                                   |
| MTTF:                               | 194.3 a (EN ISO 13849-1)                                             |

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

## Mechanical data

|                     |                    |
|---------------------|--------------------|
| Housing material:   | Plastic PBT        |
| Max.probe load:     | 6 Nm               |
| Process connection: | $\frac{3}{4}"$ NPT |
| Wetted parts:       | 1.4404, PTFE       |

## Electrical data

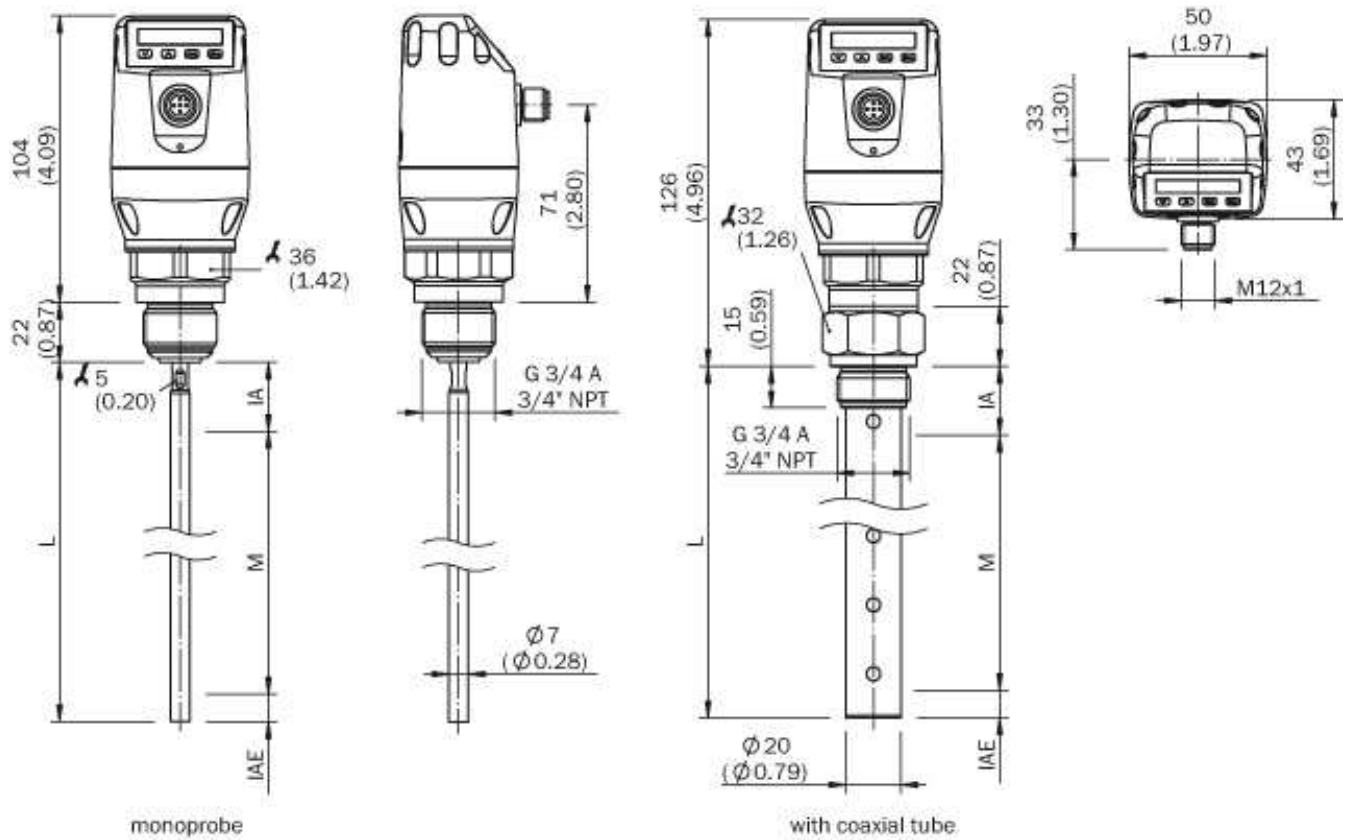
|                      |                                                                                                                                                                                       |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Temperature drift:   | $< 0.1 \text{ mm/K}$                                                                                                                                                                  |
| Enclosure rating:    | IP 67: EN 60529                                                                                                                                                                       |
| Supply voltage:      | 12 V DC ... 30 V DC <sup>1)</sup>                                                                                                                                                     |
| Power consumption:   | $\leq 100 \text{ mA}$ at 24 V DC without output load                                                                                                                                  |
| Protection class:    | III                                                                                                                                                                                   |
| Initialization time: | $\leq 5 \text{ s}$                                                                                                                                                                    |
| Output signal:       | 1 PNP transistor output (Q1) und 3 PNP/NPN transistor output (Q2...Q4) switchable, 4 mA ... 20 mA, 0 V ... 10 V automatic switching depending on the load.                            |
| Output load:         | 0 V ... 10 V $> 750 \text{ Ohm}$ at $U_v \geq 14 \text{ V}$ , 4 mA ... 20 mA $< 350 \text{ Ohm}$ at $U_v > 12 \text{ V}$ , 4 mA ... 20 mA $< 500 \text{ Ohm}$ at $U_v > 15 \text{ V}$ |
| Upper signal level:  | 20 mA ... 20.5 mA                                                                                                                                                                     |
| Lower signal level:  | 3.8 mA ... 4 mA                                                                                                                                                                       |
| Hysteresis:          | Min. 2 mm, free adjustable                                                                                                                                                            |
| Output current:      | $< 100 \text{ mA}$                                                                                                                                                                    |
| Signal voltage HIGH: | $V_s - 2 \text{ V}$                                                                                                                                                                   |
| Signal voltage LOW:  | $\leq 2 \text{ V}$                                                                                                                                                                    |
| Capacitive load:     | 100 nF                                                                                                                                                                                |
| Inductive load:      | $< 1 \text{ H}$                                                                                                                                                                       |
| 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.

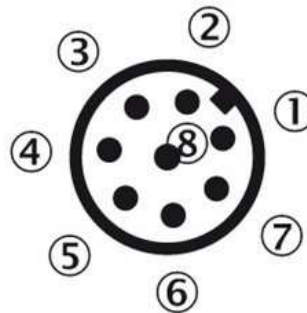
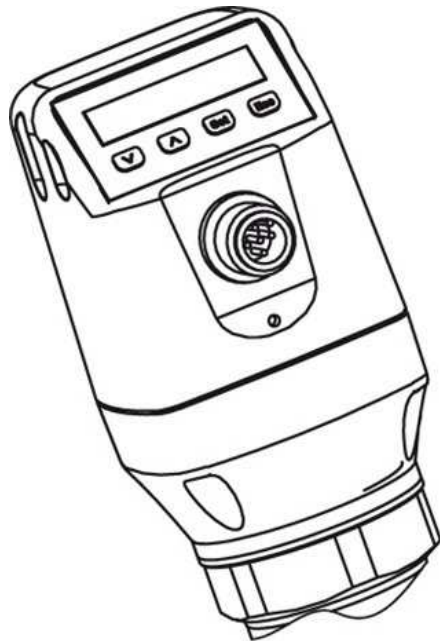
## Ambient data

|                                |                                                                   |
|--------------------------------|-------------------------------------------------------------------|
| Ambient temperature operation: | $-20 \text{ }^{\circ}\text{C} \dots +60 \text{ }^{\circ}\text{C}$ |
| Ambient storage temperature:   | $-40 \text{ }^{\circ}\text{C} \dots +80 \text{ }^{\circ}\text{C}$ |

## Dimensional drawing: mono rod probe



## 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

**Australia**

Phone +61 3 9457 0600  
1800 33 48 02 – tollfree  
E-Mail sales@sick.com.au

**Belgium/Luxembourg**

Phone +32 (0)2 466 55 66  
E-Mail info@sick.be

**Brasil**

Phone +55 11 3215-4900  
E-Mail marketing@sick.com.br

**Canada**

Phone +1 905 771 14 44  
E-Mail information@sick.com

**Česká republika**

Phone +420 2 57 91 18 50  
E-Mail sick@sick.cz

**China**

Phone +86 4000 121 000  
E-Mail info.china@sick.net.cn  
Phone +852-2153 6300  
E-Mail ghk@sick.com.hk

**Danmark**

Phone +45 45 82 64 00  
E-Mail sick@sick.dk

**Deutschland**

Phone +49 211 5301-301  
E-Mail info@sick.de

**España**

Phone +34 93 480 31 00  
E-Mail info@sick.es

**France**

Phone +33 1 64 62 35 00  
E-Mail info@sick.fr

**Great Britain**

Phone +44 (0)1727 831121  
E-Mail info@sick.co.uk

**India**

Phone +91-22-4033 8333  
E-Mail info@sick-india.com

**Israel**

Phone +972-4-6881000  
E-Mail info@sick-sensors.com

**Italia**

Phone +39 02 27 43 41  
E-Mail info@sick.it

**Japan**

Phone +81 (0)3 5309 2112  
E-Mail support@sick.jp

**Magyarország**

Phone +36 1 371 2680  
E-Mail office@sick.hu

**Nederland**

Phone +31 (0)30 229 25 44  
E-Mail info@sick.nl

**Norge**

Phone +47 67 81 50 00  
E-Mail sick@sick.no

**Österreich**

Phone +43 (0)22 36 62 28 8-0  
E-Mail office@sick.at

**Polska**

Phone +48 22 837 40 50  
E-Mail info@sick.pl

**România**

Phone +40 356 171 120  
E-Mail office@sick.ro

**Russia**

Phone +7-495-775-05-30  
E-Mail info@sick.ru

**Schweiz**

Phone +41 41 619 29 39  
E-Mail contact@sick.ch

**Singapore**

Phone +65 6744 3732  
E-Mail sales.gsg@sick.com

**Slovenija**

Phone +386 (0)1-47 69 990  
E-Mail office@sick.si

**South Africa**

Phone +27 11 472 3733  
E-Mail info@sickautomation.co.za

**South Korea**

Phone +82 2 786 6321/4  
E-Mail info@sickkorea.net

**Suomi**

Phone +358-9-25 15 800  
E-Mail sick@sick.fi

**Sverige**

Phone +46 10 110 10 00  
E-Mail info@sick.se

**Taiwan**

Phone +886 2 2375-6288  
E-Mail sales@sick.com.tw

**Türkiye**

Phone +90 (216) 528 50 00  
E-Mail info@sick.com.tr

**United Arab Emirates**

Phone +971 (0) 4 88 65 878  
E-Mail info@sick.ae

**USA/México**

Phone +1(952) 941-6780  
1 (800) 325-7425 – tollfree  
E-Mail info@sickusa.com

More representatives and agencies  
at [www.sick.com](http://www.sick.com)