



# LFP0025-A4NMB

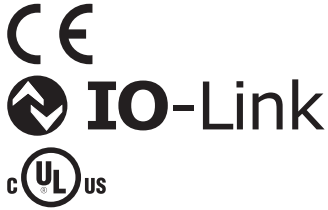
LFP Cubic

TDR LEVEL SENSOR

**SICK**  
Sensor Intelligence.



Illustration may differ



### Ordering information

Type	Part no.
LFP0025-A4NMB	1060171

Other models and accessories → [www.sick.com/LFP\\_Cubic](http://www.sick.com/LFP_Cubic)

### Detailed technical data

#### Features

<b>Medium</b>	Fluids
<b>Measurement</b>	Switch, Continuous
<b>Probe type</b>	Without probe
<b>Probe length</b>	25 mm
<b>Process pressure</b>	-1 bar ... 10 bar
<b>Process temperature</b>	-20 °C ... +100 °C
<b>RoHS certificate</b>	✓
<b>IO-Link</b>	✓
<b>CULus certificate</b>	✓

#### Performance

<b>Accuracy of sensor element</b>	± 5 mm <sup>1)</sup>
<b>Reproducibility</b>	≤ 2 mm
<b>Resolution</b>	< 2 mm
<b>Response time</b>	< 400 ms
<b>Dielectricity constant</b>	≥ 5 for rod probe / cable probe ≥ 1.8 with coaxial tube
<b>Conductivity</b>	No limitation
<b>Maximum level change</b>	≤ 500 mm/s
<b>Deactivated area at process connection</b>	25 mm <sup>2)</sup>
<b>Deactivated area at end of probe</b>	≥ 10 mm <sup>1)</sup>
<b>MTTF</b>	194.3 years (EN ISO 13849-1)

<sup>1)</sup> With water under reference conditions.

<sup>2)</sup> With parameterized container with water under reference conditions, otherwise 40 mm.

## Electronics

<b>Supply voltage</b>	12 V DC ... 30 V DC <sup>1)</sup>
<b>Power consumption</b>	≤ 100 mA at 24 V DC without output load
<b>Initialization time</b>	≤ 5 s
<b>Protection class</b>	III
<b>Connection type</b>	Round connector M12 x 1, 5-pin
<b>Output signal</b>	1 x PNP + 1 x PNP/NPN + 4 mA ... 20 mA / 0 V ... 10 V
<b>Output load</b>	4 mA ... 20 mA < 500 Ohm at U <sub>v</sub> > 15 V, 4 mA ... 20 mA < 350 Ohm at U <sub>v</sub> > 12 V, 0 V ... 10 V > 750 Ohm at U <sub>v</sub> 14 ≥ V
<b>Hysteresis</b>	Min. 2 mm, free adjustable
<b>Output current</b>	< 100 mA
<b>Inductive load</b>	< 1 H
<b>Capacitive load</b>	100 nF
<b>Enclosure rating</b>	IP67: EN 60529
<b>Temperature drift</b>	< 0.1 mm/K
<b>Lower signal level</b>	3.8 mA ... 4 mA
<b>Upper signal level</b>	20 mA ... 20.5 mA
<b>EMC</b>	EN 61326-2-3, 2014/30/EU

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

## Mechanics

<b>Wetted parts</b>	1.4404, PTFE FKM
<b>Process connection</b>	G 3/4 A
<b>Housing material</b>	Plastic PBT
<b>Max. probe load</b>	≤ 6 Nm

## Ambient data

<b>Ambient operating temperature</b>	-20 °C ... +60 °C
<b>Ambient temperature, storage</b>	-40 °C ... +80 °C

## Classifications

<b>eCl@ss 5.0</b>	27200513
<b>eCl@ss 5.1.4</b>	27200513
<b>eCl@ss 6.0</b>	27200513
<b>eCl@ss 6.2</b>	27200513
<b>eCl@ss 7.0</b>	27200513
<b>eCl@ss 8.0</b>	27200513
<b>eCl@ss 8.1</b>	27200513
<b>eCl@ss 9.0</b>	27200513
<b>eCl@ss 10.0</b>	27200513
<b>eCl@ss 11.0</b>	27200513
<b>eCl@ss 12.0</b>	27200513
<b>ETIM 5.0</b>	EC001447



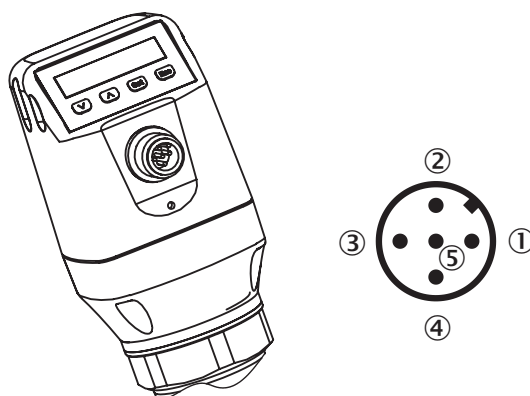
Dimensional drawing (Dimensions in mm (inch))

Dimensional drawing: rod probe



- ① M: measuring range
- ② L: Probe length
- ③ IA: Inactive area at process connection 25 mm (0.98")
- ④ IAE: Inactive area at probe end 10 mm (0.39")

Connection type



- ① L<sup>+</sup>: Supply voltage, brown
- ② Q<sub>A</sub>: Analog current-/voltage output, white
- ③ M: Ground, reference ground for current-/voltage output, blue
- ④ C/Q<sub>1</sub>: Switching output 1, PNP/IO-Link-communication, black
- ⑤ Q<sub>2</sub>: Switching output 2, PNP/NPN, grey

Instruction for installation

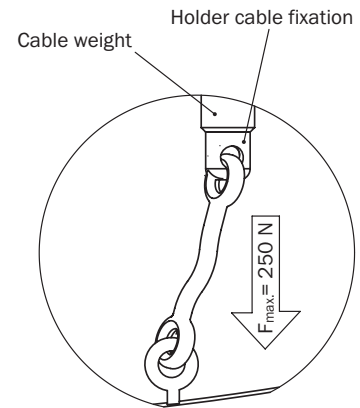


**Mono rod probe mounted in metal tank**

$M$  = Measuring range  
 $X$  = Inactive area at probe end  
 No measurement possible

**Rope probe mounted in metal tank**

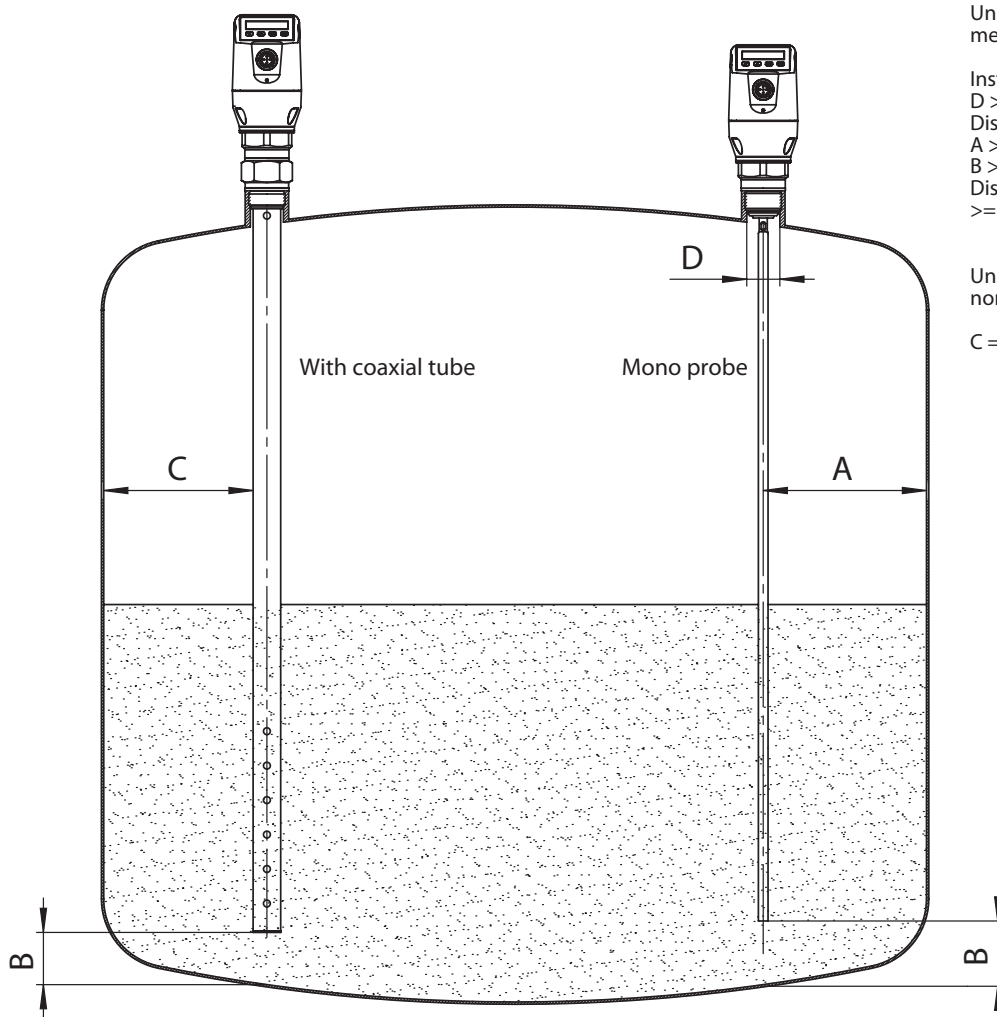
Installation in nozzle:  
 $D \geq \text{DN } 25 \text{ (1" )}$   
 Distance tank wall/tank bottom:  
 $A \geq 50 \text{ mm (1.97" )}$   
 Distance to other tank fittings:  
 $\geq 100\text{mm (3.94" )}$



Installation in a metal immersion tube or metal bypass



Installation in a metal tank



Unit with mono probe mounted in metal tank

Installation in nozzle:

D >= DN 25 (1")

Distance tank wall/tank bottom:

A >= 50 mm (1.97")

B >= 10 mm (0.40")

Distance to other tank fittings


>= 100mm (3.94")

Unit with coaxial tube for metal and non metal tank

C = with a coaxial tube there are no minimum distances to the tank wall or to other tank fittings required

### Recommended accessories

Other models and accessories → [www.sick.com/LFP\\_Cubic](http://www.sick.com/LFP_Cubic)

	Brief description	Type	Part no.
<b>Spare parts</b>			
	Spare titan probe for LFP Cubic, length 1 m	BEF-ER-TS1000-LFPC	2081042
	Spare titan probe for LFP Cubic, length 2 m	BEF-ER-TS2000-LFPC	2081043
<b>Flanges</b>			
		BEF-HA-G1BSP1-LFP1	2067603

	Brief description	Type	Part no.
		BEF-FL-GEWG34-LFP1	2082150
Mounting brackets and plates			
		BEF-FL-304LFP-HLDR	2077391

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We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

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