



LFP4000-E5NMC

LFP Cubic

TDR LEVEL SENSOR

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

Type	Part no.
LFP4000-E5NMC	1070139

Other models and accessories → www.sick.com/LFP_Cubic



Detailed technical data

Features

Medium	Fluids
Measurement	Switch, Continuous
Design	Standard
Probe type	Cable probe
Probe length	4,000 mm
Process pressure	-1 bar ... 10 bar
Process temperature	-20 °C ... +100 °C
RoHS certificate	✓
IO-Link	✓
CULus certificate	✓

Performance

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

¹⁾ With water under reference conditions.

²⁾ With parameterized container with water under reference conditions, otherwise 40 mm.

Electronics

Supply voltage	12 V DC ... 30 V DC ¹⁾
Power consumption	≤ 100 mA at 24 V DC without output load
Initialization time	≤ 5 s
Protection class	III
Connection type	M12 round connector x 1, 8-pin
Output signal	1 x PNP + 3 x PNP/NPN + 4 mA ... 20 mA / 0 V ... 10 V
Output load	4 mA ... 20 mA < 500 Ohm at U _v > 15 V, 4 mA ... 20 mA < 350 Ohm at U _v > 12 V, 0 V ... 10 V > 750 Ohm at U _v 14 ≥ V
Hysteresis	Min. 2 mm, free adjustable
Output current	< 100 mA
Inductive load	< 1 H
Capacitive load	100 nF
Enclosure rating	IP67: EN 60529
Temperature drift	< 0.1 mm/K
Lower signal level	3.8 mA ... 4 mA
Upper signal level	20 mA ... 20.5 mA
EMC	EN 61326-2-3, 2014/30/EU

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

Mechanics

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

Ambient data

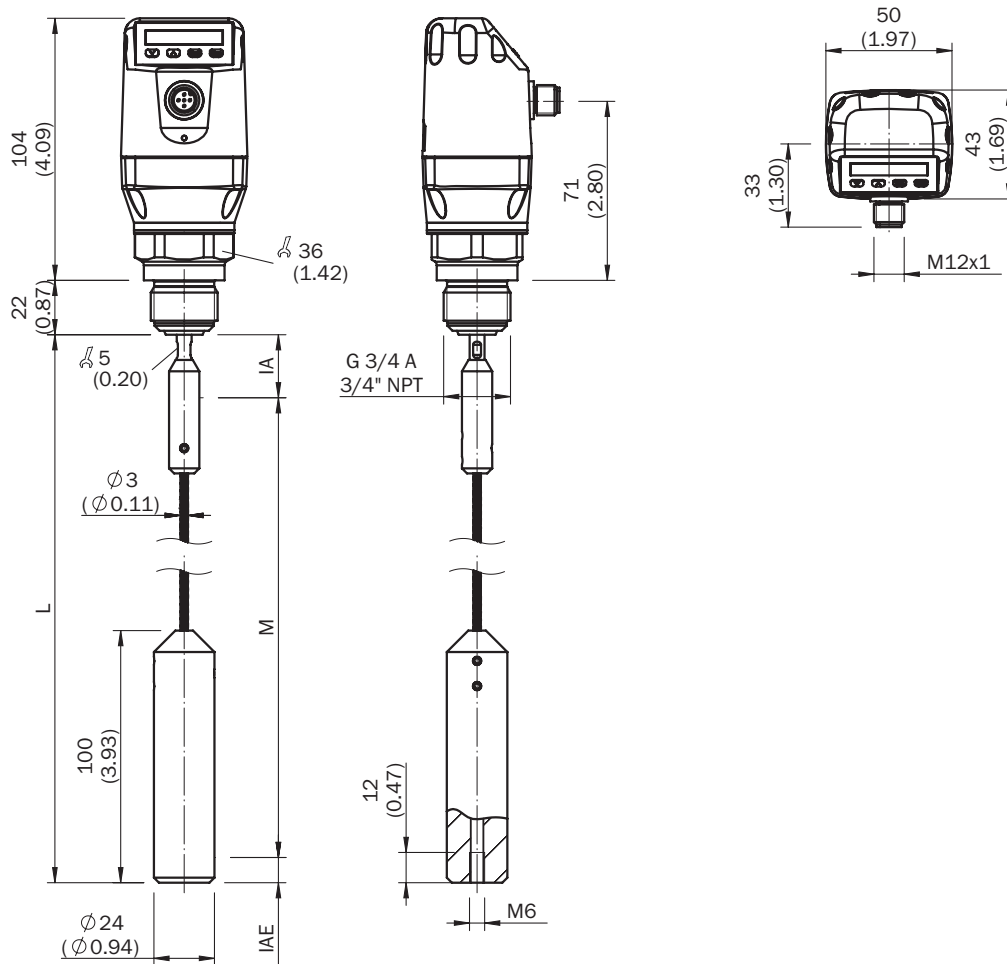
Ambient operating temperature	-20 °C ... +60 °C
Ambient temperature, storage	-40 °C ... +80 °C

Classifications

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

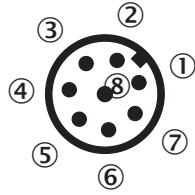
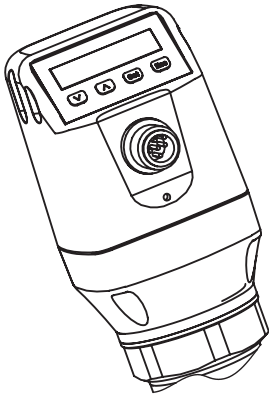
Dimensional drawing (Dimensions in mm (inch))

Dimensional drawing: cable probe



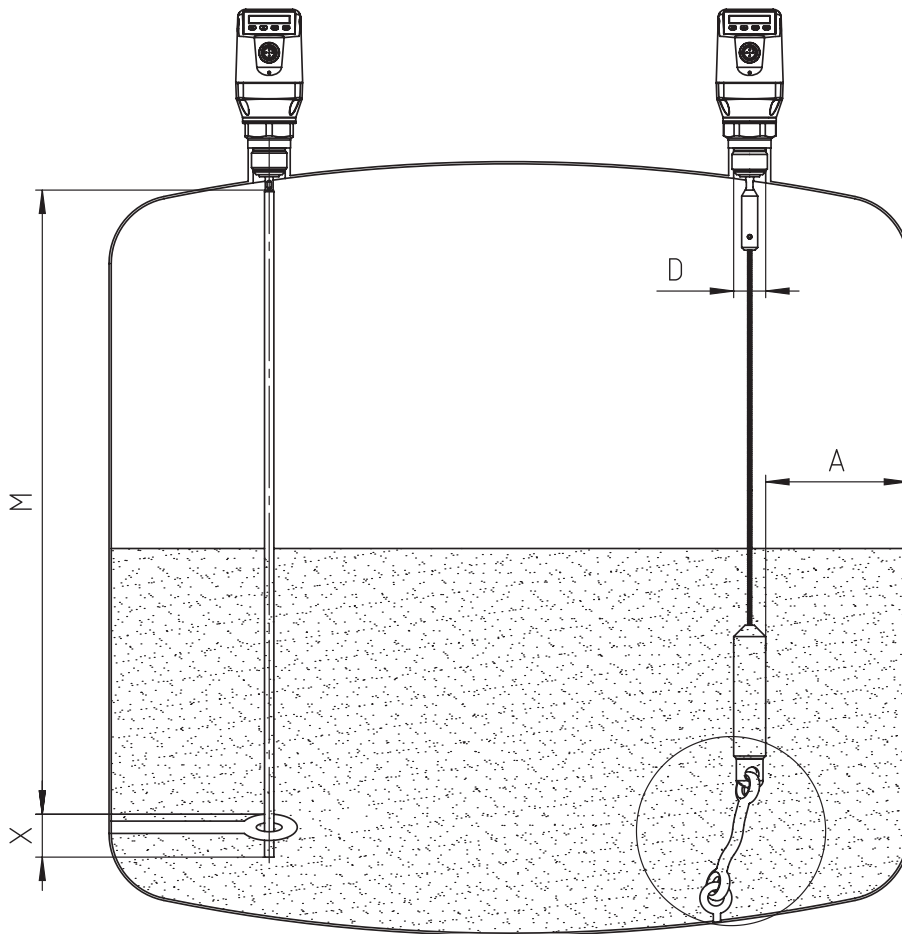
- ① M: measuring range
- ② L: Probe length
- ③ IA: Inactive area at process connection 25 mm (0.98")
- ④ IAE: Inactive area at probe end 10 mm (0.39")

Connection type



- ① L⁺: 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 Q_A: Analog current-/voltage output
- ⑧ No function

Instruction for installation

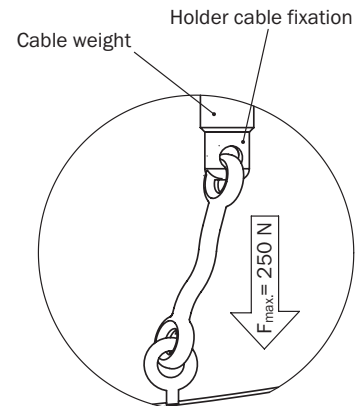


Mono rod probe mounted in metal tank

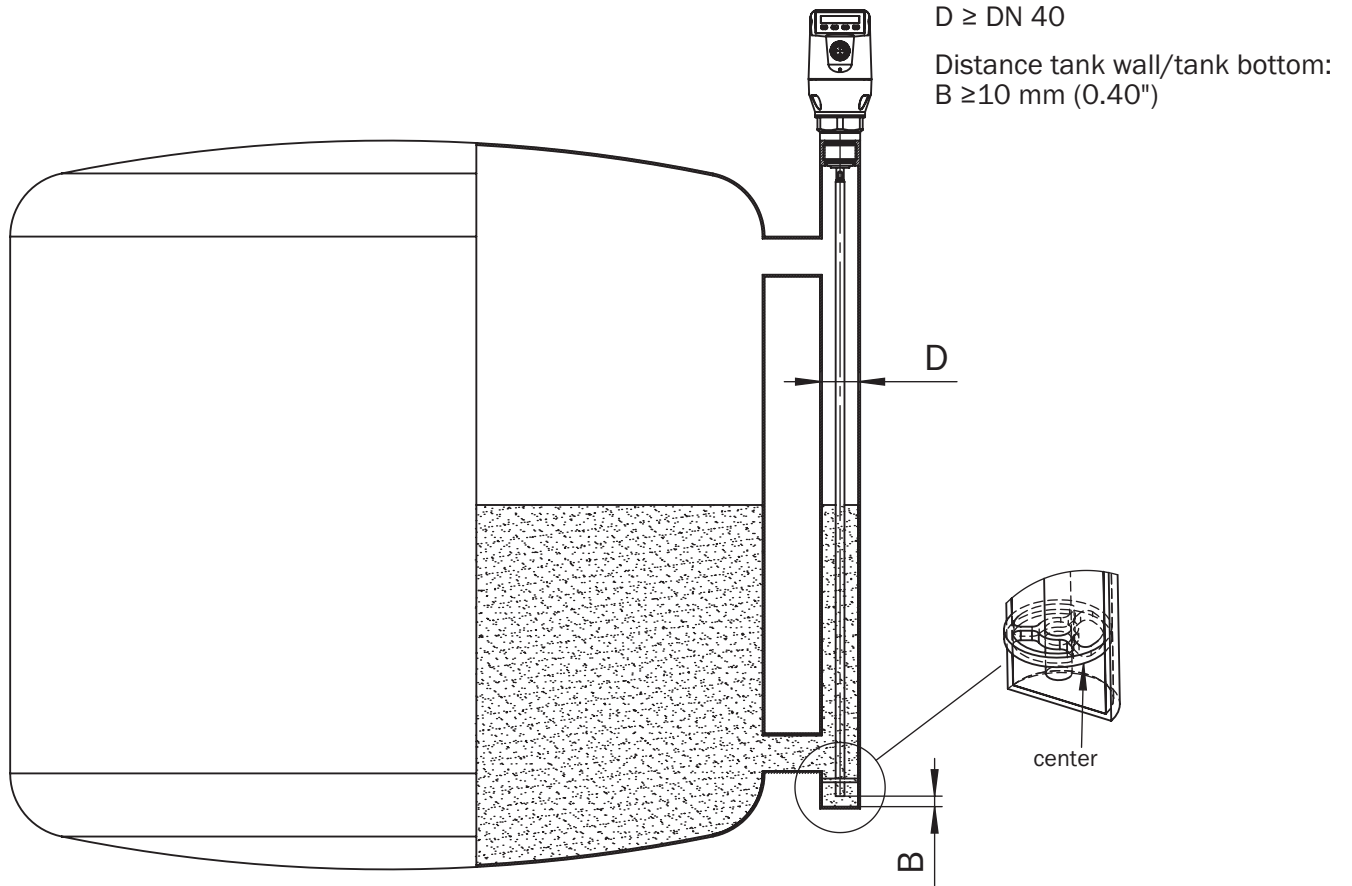
M = Measuring range
 X = Inactive area at probe end
 No measurement possible

Rope probe mounted in metal tank

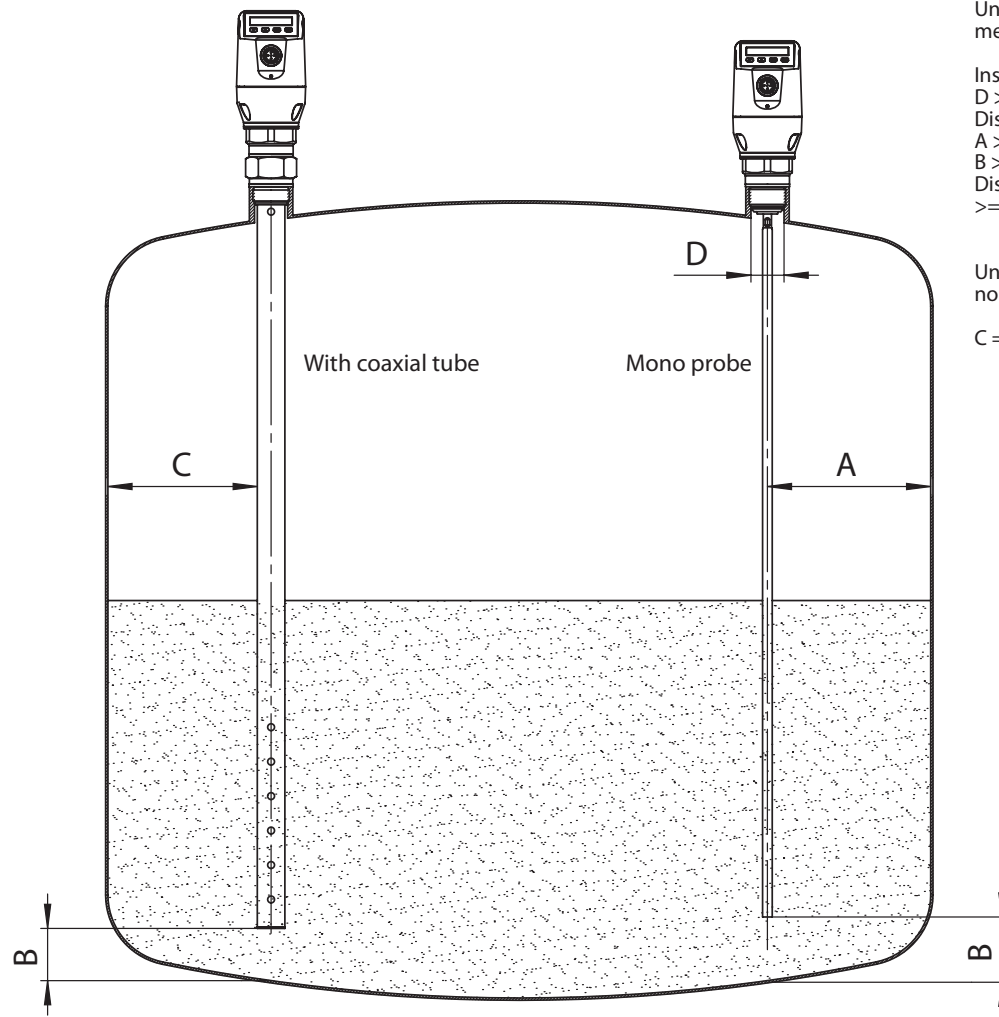
Installation in nozzle:
 $D \geq \text{DN } 25 \text{ (1")}$
 Distance tank wall/tank bottom:
 $A \geq 50 \text{ mm (1.97")}$
 Distance to other tank fittings:
 $\geq 100\text{mm (3.94")}$



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:

$D \geq DN\ 25\ (1\text{'})$

Distance tank wall/tank bottom:

$A \geq 50\ \text{mm}\ (1.97\text{'})$

$B \geq 10\ \text{mm}\ (0.40\text{'})$

Distance to other tank fittings



$\geq 100\text{mm}\ (3.94\text{'})$









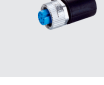
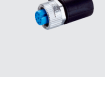












Unit with coaxial tube for metal and non metal tank

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

	Brief description	Type	Part no.
Spare parts			
	Spare cable probe for LFP Cubic, length 2 m	BEF-ER-SS2000-LFPC	2078194
	Spare cable probe for LFP Cubic, length 4 m	BEF-ER-SS4000-LFPC	2078195
	Spare cable probe for LFP Cubic, length 6 m	BEF-ER-SS6000-LFPC	2082147
Mounting brackets and plates			
		BEF-FL-304LFP-HLDR	2077391

	Brief description	Type	Part no.
Plug connectors and cables			
		YF2A18-020UA5XLEAX	2095652
		YF2A18-050UA5XLEAX	2095653
		YF2A18-100UA5XLEAX	2095654
		YF2A28-020VA6XLEAX	2096243
		YF2A28-050VA6XLEAX	2096244
		YF2A28-100VA6XLEAX	2096245
		YG2A18-020UA5XLEAX	2095779
		YG2A18-050UA5XLEAX	2095780
		YG2A18-100UA5XLEAX	2095781
		YG2A28-020VA6XLEAX	2096218
		YG2A28-050VA6XLEAX	2096219

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SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

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.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com