



LFP1000-A5NMC

LFP Cubic



**THORNE &
DERRICK
INTERNATIONAL**

LEVEL SENSORS

Thorne & Derrick
+44 (0) 191 490 1547
www.heatingandprocess.com

SICK
Sensor Intelligence.



Illustration may differ



IO-Link



Ordering information

Type	Part no.
LFP1000-A5NMC	1062253

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

Detailed technical data

Features

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

Performance

Accuracy of sensor element	± 5 mm ¹⁾
Repeatability	≤ 2 mm
Resolution	< 2 mm
Response time	< 400 ms
Dielectricity constant	≥ 5 for mono rod probe / rope probe ≥ 1.8 with coaxial tube
Conductivity	No limitation
Maximum level change	≤ 500 mm/s
Deactivated area at end of probe	10 mm ¹⁾

¹⁾ With water under reference conditions.

MTTF	194.3 years (EN ISO 13849-1)
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¹⁾ With water under reference conditions.

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
Electrical connection	M12 round connector x 1, 8-pin
Output signal	4 mA ... 20 mA, 0 V ... 10 V automatic switching depending on the load., 1 PNP transistor output (Q1) and 3 PNP/NPN transistor outputs (Q2 to Q4) switchable
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
Signal voltage HIGH	V _s - 2 V
Signal voltage LOW	≤ 2 V
Output current	< 100 mA
Inductive load	< 1 H
Capacitive load	100 nF
Enclosure rating	IP 67: 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
Process connection	G ¾ A
Housing material	Plastic PBT
Max.probe load	≤ 6 Nm

Ambient data

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

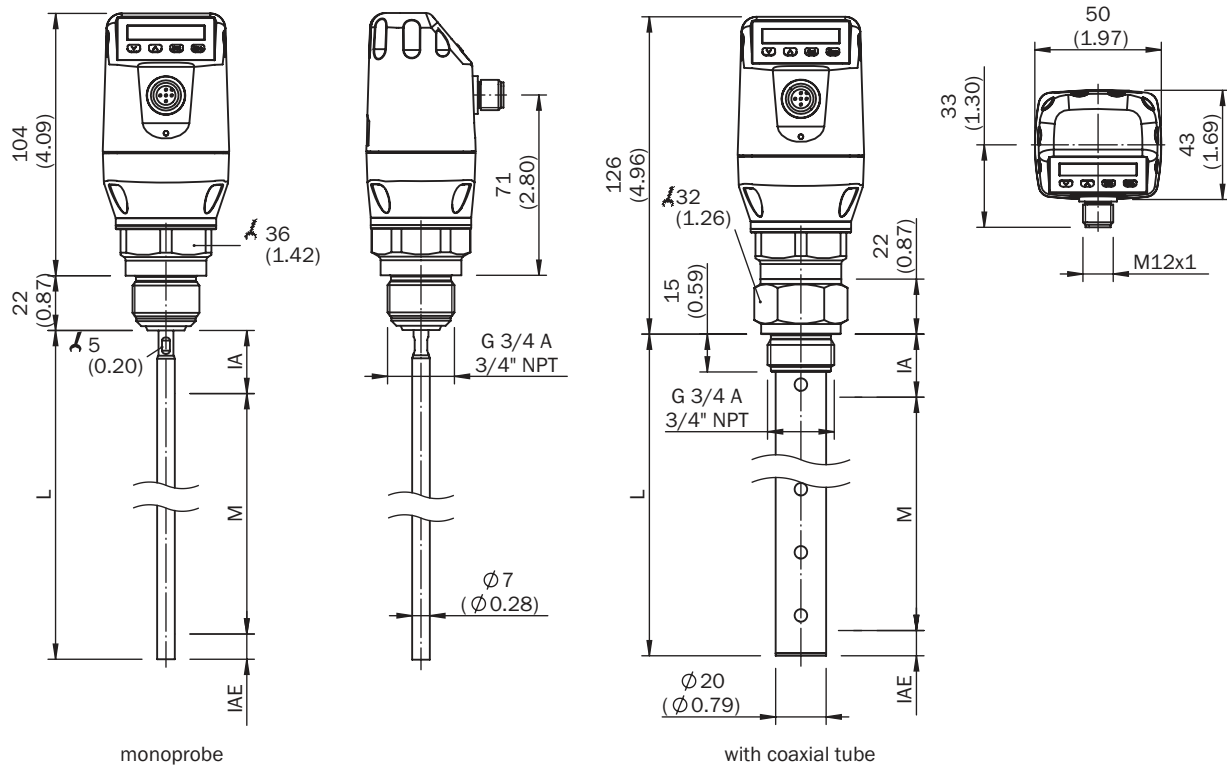
Classifications

ECI@ss 5.0	27371813
ECI@ss 5.1.4	27371813
ECI@ss 6.0	27371813
ECI@ss 6.2	27371813
ECI@ss 7.0	27371813
ECI@ss 8.0	27371813
ECI@ss 8.1	27371813
ECI@ss 9.0	27371813

ETIM 5.0	EC001447
ETIM 6.0	EC001447
UNSPSC 16.0901	41113710

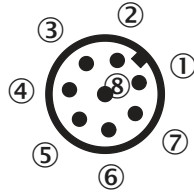
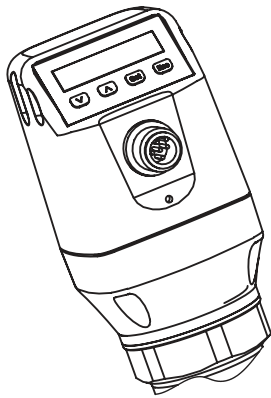
Dimensional drawing (Dimensions in mm (inch))

Dimensional drawing: mono rod probe



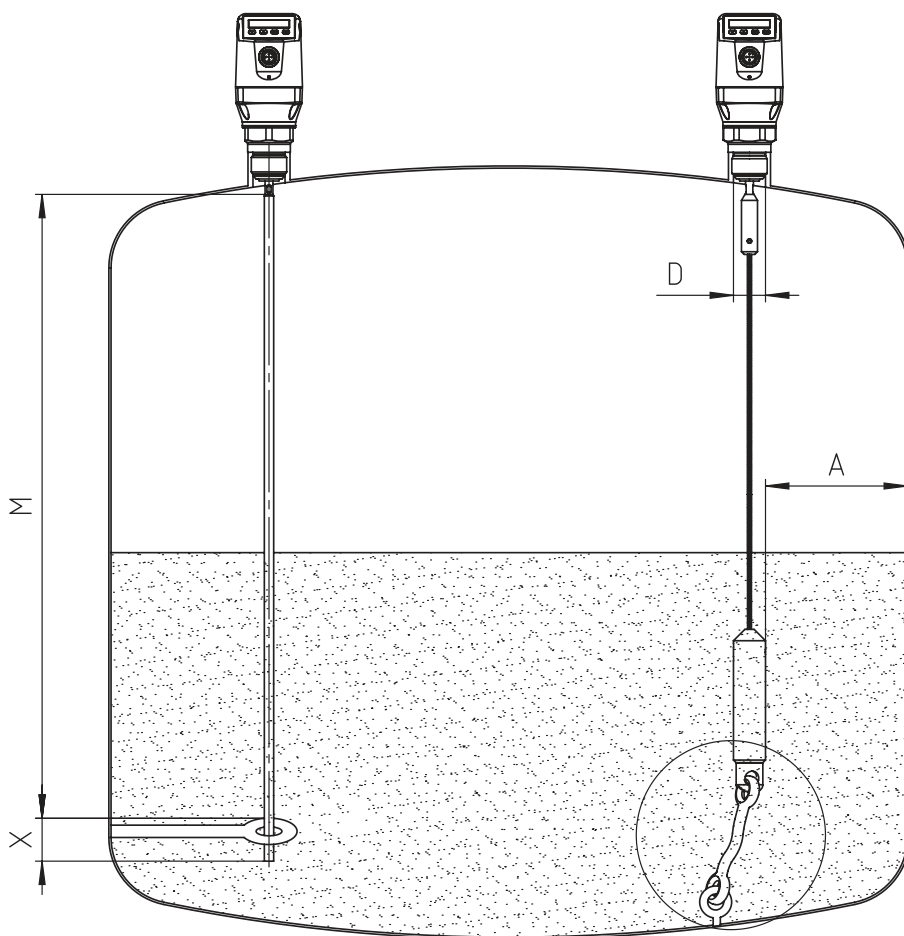
- ① M: measuring range
- ② L: Probe length
- ③ IA: Inactive area at process connection 25 mm (0.98")
- ④ IAE: Inactive area at probe end 10 mm (0.39")

Connection type



- ① L⁺: 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

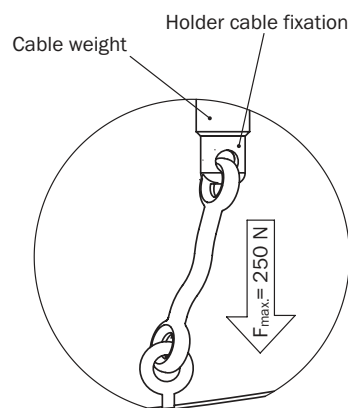


Mono rod probe mounted in metal tank

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

Rope probe mounted in metal tank

Installation in nozzle:
D ≥ DN 25 (1")
Distance tank wall/tank bottom:
A ≥ 50 mm (1.97")
Distance to other tank fittings:
≥ 100mm (3.94")



Recommended accessories

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

	Brief description	Type	Part no.
Device protection (mechanical)			
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube G 3/4, material 1.4571/316TI, for probe length 200 mm	LFPCT-0200G1	2068141
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 200 mm	LFPCT-0200N1	2068165
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube G 3/4, material 1.4571/316TI, for probe length 300 mm	LFPCT-0300G1	2068142
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 300 mm	LFPCT-0300N1	2068166
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube G 3/4, material 1.4571/316TI, for probe length 400 mm	LFPCT-0400G1	2068143
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 400 mm	LFPCT-0400N1	2068167

	Brief description	Type	Part no.
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube G 3/4, material 1.4571/316TI, for probe length 500 mm	LFPCT-0500G1	2068144
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 500 mm	LFPCT-0500N1	2068168
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube G 3/4, material 1.4571/316TI, for probe length 600 mm	LFPCT-0600G1	2068145
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 600 mm	LFPCT-0600N1	2068169
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube G 3/4, material 1.4571/316TI, for probe length 700 mm	LFPCT-0700G1	2068146
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 700 mm	LFPCT-0700N1	2068170
	Coaxial tube for LFP with process connection G 3/4, process connection of coax probe G 3/4, material 1.4571/316TI, for probe length 800 mm	LFPCT-0800G1	2068147
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 800 mm	LFPCT-0800N1	2068171
	Coaxial probe for LFP with process connection G 3/4, process connection of coaxial tube G 3/4, material 1.4571/316TI, for probe length 900 mm	LFPCT-0900G1	2067507
	Coaxial probe for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 900 mm	LFPCT-0900N1	2068172
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube G 3/4, material 1.4571/316TI, for probe length 1000 mm	LFPCT-1000G1	2065702
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 1000 mm	LFPCT-1000N1	2068173
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube G 3/4, material 1.4571/316TI, for probe length 1100 mm	LFPCT-1100G1	2068148
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 1100 mm	LFPCT-1100N1	2068174
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube G 3/4, material 1.4571/316TI, for probe length 1200 mm	LFPCT-1200G1	2068149
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 1200 mm	LFPCT-1200N1	2068175
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube G 3/4, material 1.4571/316TI, for probe length 1300 mm	LFPCT-1300G1	2068150
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 1300 mm	LFPCT-1300N1	2068176
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube G 3/4, material 1.4571/316TI, for probe length 1400 mm	LFPCT-1400G1	2068151
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 1400 mm	LFPCT-1400N1	2068177
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube G 3/4, material 1.4571/316TI, for probe length 1500 mm	LFPCT-1500G1	2068152
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 1500 mm	LFPCT-1500N1	2068178
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube G 3/4, material 1.4571/316TI, for probe length 1600 mm	LFPCT-1600G1	2068153
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 1600 mm	LFPCT-1600N1	2068179
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube G 3/4, material 1.4571/316TI, for probe length 1700 mm	LFPCT-1700G1	2068154
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 1700 mm	LFPCT-1700N1	2068180

	Brief description	Type	Part no.
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube G 3/4, material 1.4571/316TI, for probe length 1500 mm	LFPCT-1800G1	2068155
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 1800 mm	LFPCT-1800N1	2068181
	Coaxial tube for LFP with process connection G 3/4, process connection of coax probe G 3/4, material 1.4571/316TI, for probe length 1900 mm	LFPCT-1900G1	2068156
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 1900 mm	LFPCT-1900N1	2068182
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube G 3/4, material 1.4571/316TI, for probe length 2000 mm	LFPCT-2000G1	2065703
	Coaxial tube for LFP with process connection G 3/4, process connection of coaxial tube 3/4" NPT, material 1.4571/316TI, for probe length 2000 mm	LFPCT-2000N1	2068183
Flanges			
	Process connection adapter G 3/4 to G1	BEF-HA-G1BSP1-LFP1	2067603
	Weld-in flange G 3/4"	BEF-FL-GEWG34-LFP1	2082150
Mounting brackets and mounting plates			
	Mounting bracket, mounting hardware included	BEF-FL-304LFP-HLDR	2077391
Plug connectors and cables			
	Head A: female connector, M12, 8-pin, straight Head B: cable Cable: PVC, shielded, 2 m	DOL-1208-G02MA	6020633
Spare parts			
	Spare probe for LFP Cubic, probe length 1000 mm, material 1.4404/316L, diameter 7 mm	BEF-ER-SN1000-LFPC	2065700
	Spare probe for LFP Cubic, probe length 2000 mm, material 1.4404/316L, diameter 7 mm	BEF-ER-SN2000-LFPC	2065701

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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.

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+44 (0) 191 490 1547
www.heatingandprocess.com

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