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DATA SHEET

LFP1000-A4NMB

LFP Cubic
Level sensors

SICK Sensor Intelligence



Illustration may differ

LEVEL SENSORS

LFP1000-A4NMB

ORDERING INFORMATION

Type	part no.
LFP1000-A4NMB	1057081

Further device versions and accessories at www.sick.com/LFP_Cubic

DETAILED TECHNICAL DATA

FEATURES

Medium	Fluids
Measurement	Switch, Continuous
Design	Standard amplifier
Probe type	Rod probe
Probe length	1,000 mm
Process pressure	–1 bar ... 10 bar
Process temperature	–20 °C ... +100 °C

PERFORMANCE

Accuracy of sensor element	± 5 mm
Reproducibility	≤ 2 mm
Resolution	1 mm
Response time	400 ms [1]
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 [3]
MTTF	194.3 years (EN ISO 13849-1)
Display	✓

[1] Dependent on measuring mode (high speed < 400 ms, high accuracy < 2,800 ms).

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

[3] With water under reference conditions.

ELECTRONICS

Communication interface	IO-Link
Supply voltage	12 V DC ... 30 V DC [1]
Power consumption	≤ 75 mA at 24 V DC without output load
Initialization time	≤ 2 s
Protection class	III
Connection type	Round connector M12 x 1, 5-pin
Output signal	1 x PNP + 1 x PNP/NPN + 4 mA ... 20 mA / 0 V ... 10 V
Output load	4 mA ... 20 mA < 500 Ohm at Uv > 13,5 V, 4 mA ... 20 mA < 400 Ohm at Uv > 12 V, 0 V ... 10 V > 750 Ohm at Uv ≥ 14 V
Hysteresis	≥ 2 mm [2]
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, 0 V
Upper signal level	20 mA ... 20.5 mA, 10.5 V
EMC	EN 61326-2-3, 2014/30/EU

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

[2] Freely adjustable.

MECHANICS

Wetted parts	Stainless steel 1.4404 / 316L PTFE FKM
Process connection	G ¾ A
Housing material	Plastic PBT
Max. probe load	≤ 6 Nm

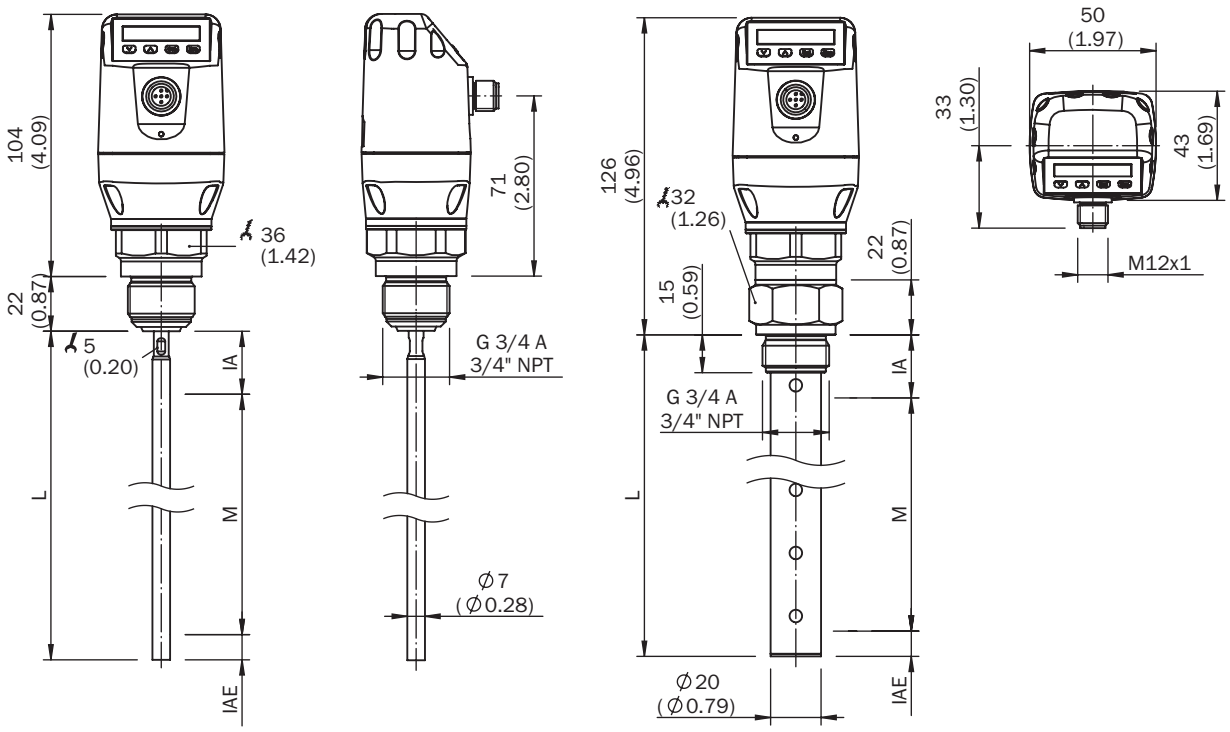
AMBIENT DATA

Ambient operating temperature	–20 °C ... +60 °C
Ambient temperature, storage	–40 °C ... +80 °C
Outdoor use	Only with weather hood

CERTIFICATES

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
China Compulsory Product Certification (CCC) exempt	✓
cULus certificate	✓
IO-Link certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

DIMENSIONAL DRAWING: ROD PROBE

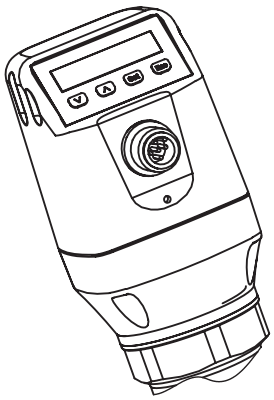


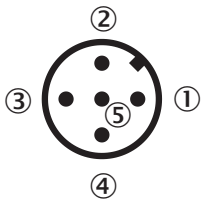
monoprobe

with coaxial tube

Dimensions in mm (inch)
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")

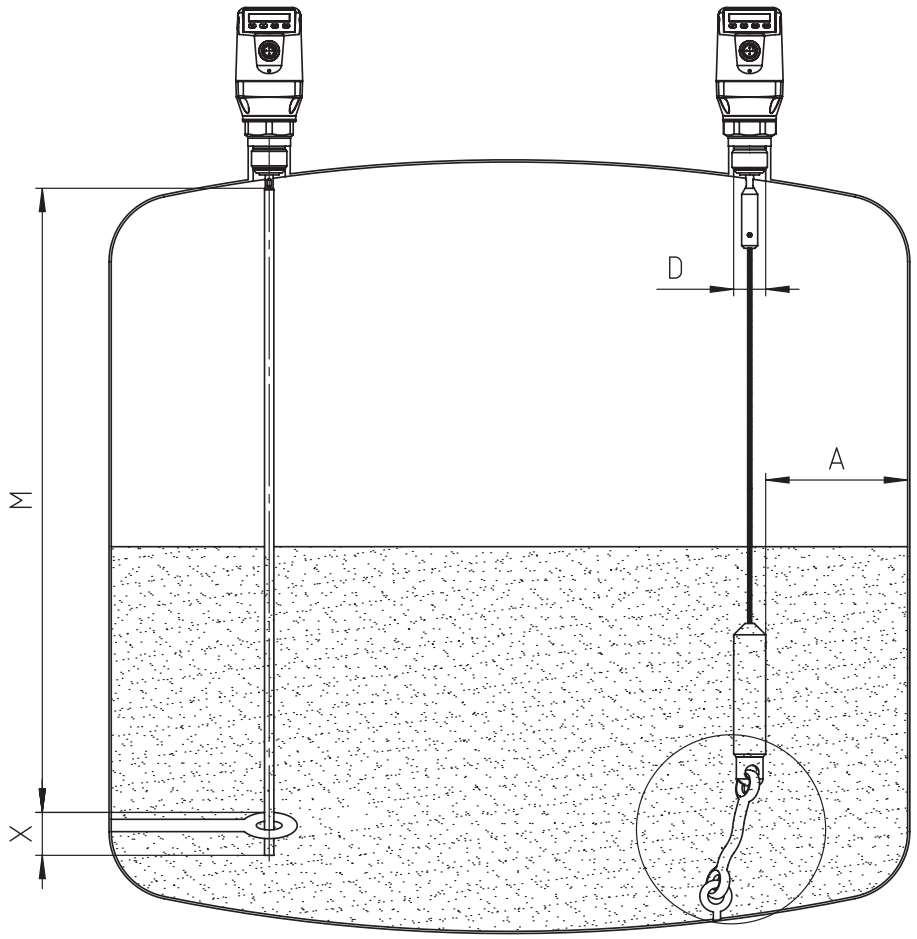
CONNECTION TYPE





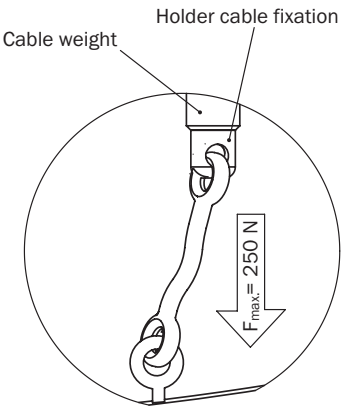
① L^+: Supply voltage, brown
② Q_A: Analog current-/voltage output, white
③ M: Ground, reference ground for current-/voltage output, blue
④ C/Q_1: Switching output 1, PNP/IO-Link-communication, black
⑤ Q_2: Switching output 2, PNP/NPN, grey

INSTRUCTION FOR INSTALLATION

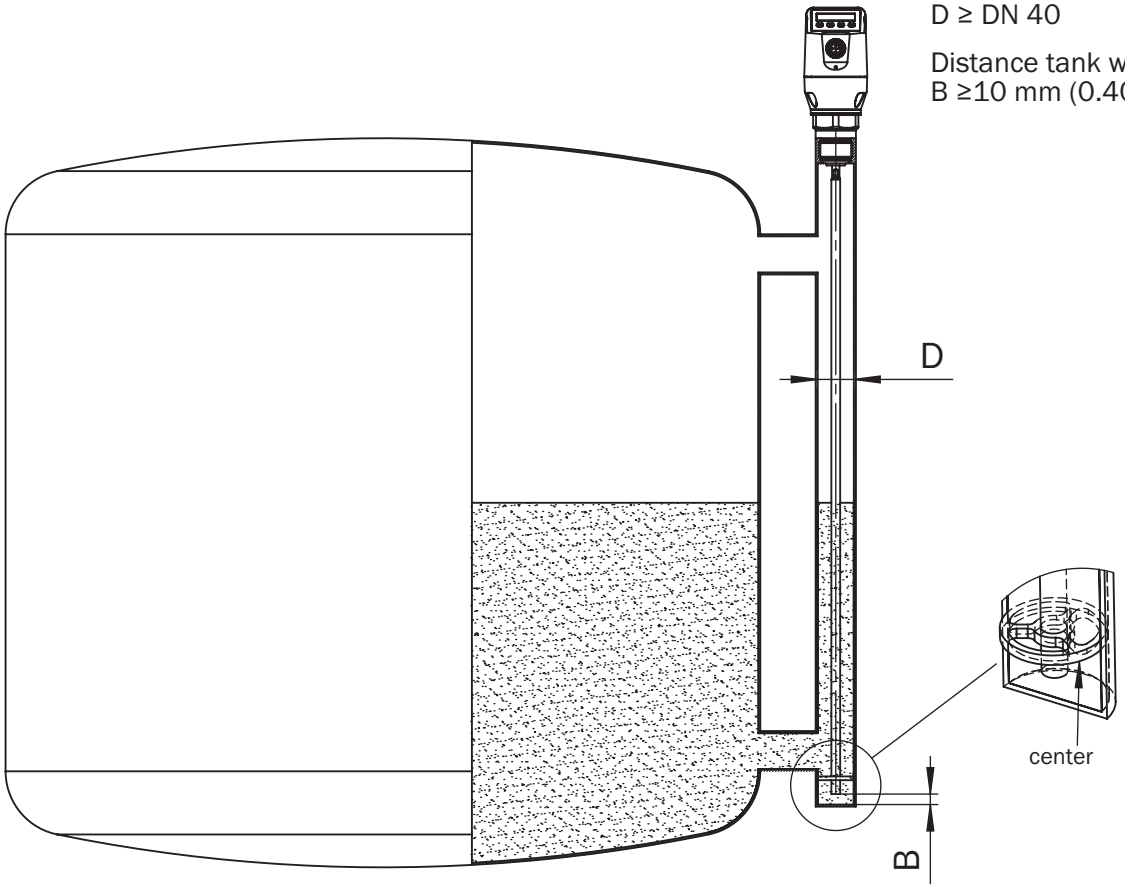


Mono rod probe mounted in metal tank
M = Measuring range
X = Inactive area at probe end
No measurement possible

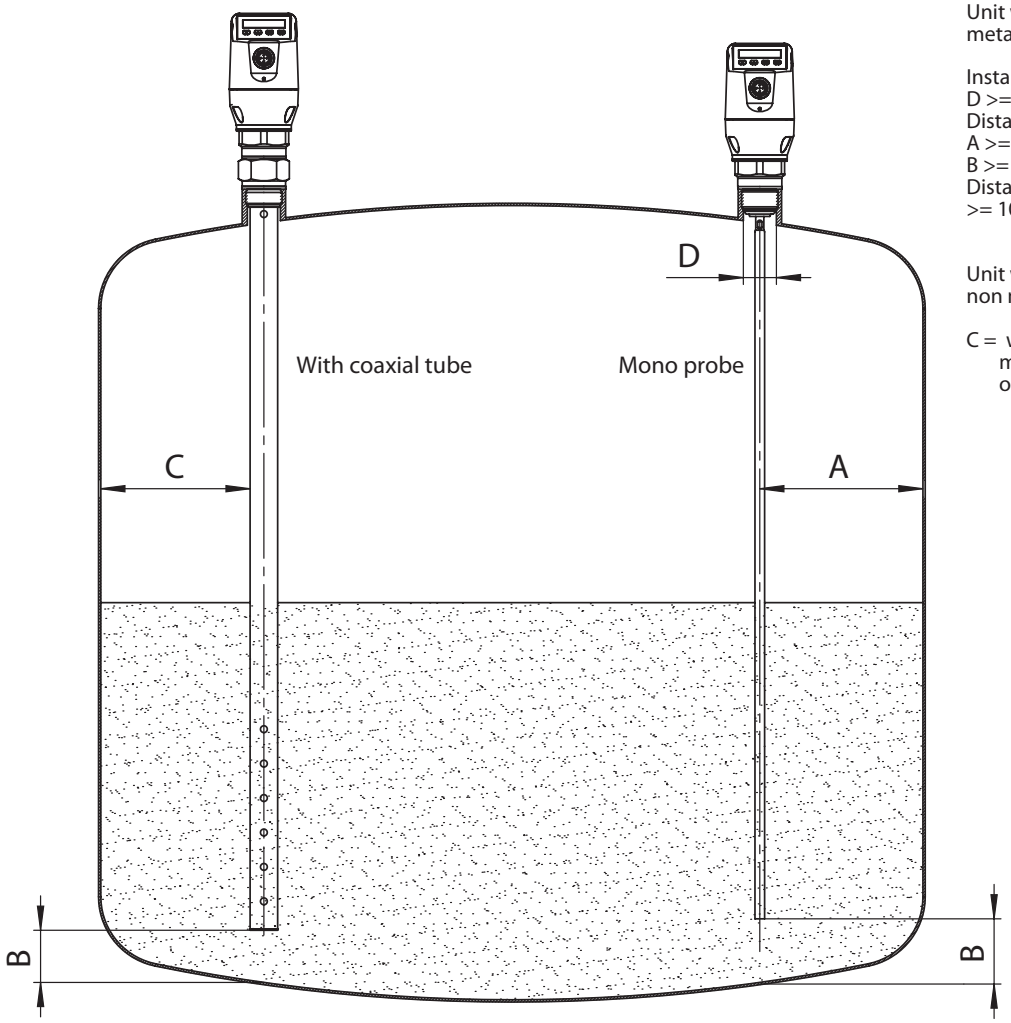
Rope probe mounted in metal tank
Installation in nozzle:
D ≥ DN 25 (1")
Distance tank wall/tank bottom:
A ≥ 50 mm (1.97")
Distance to other tank fittings:
≥ 100mm (3.94")



INSTRUCTION FOR INSTALLATION INSTALLATION IN A METAL IMMERSION TUBE OR METAL BYPASS



INSTRUCTION FOR INSTALLATION 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

Further information as well as suitable accessories, example applications and downloads such as CAD dimensional models, operating instructions and software can be found at www.sick.com/1057081

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SICK AT A GLANCE

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