LFP4000-F5BMC

LFP Cubic

LEVEL SENSORS

SICK
Sensor Intelligence.

LFP4000-F5BMC | LFP Cubic

LEVEL SENSORS

Ordering information

Illustration may differ

Type	part no.
LFP4000-F5BMC	1072024

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

Detailed technical data

Features

Medium	Fluids
Measurement	Switch, Continuous
Design	Remote amplifier
Probe type	Cable probe
Probe length	4,000 mm
Process pressure	–1 bar ... 10 bar
Process temperature	–20 °C ... +100 °C

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)
Display	✔

[1] With water under reference conditions.

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

Electronics

Communication interface	IO-Link
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
Length of cable	1 m
Output signal	1 x PNP + 3 x PNP/NPN + 4 mA … 20 mA / 0 V … 10 V
Output load	4 mA … 20 mA < 350 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
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.
[2] Freely adjustable.

Mechanics

Wetted parts	Stainless steel 1.4404 / 316L PTFE FKM
Process connection	¾" NPT
Housing material	Plastic PBT
Max. probe load	≤ 6 Nm
Material coaxial cable	PVC

Ambient data

Ambient operating temperature	−20 °C … +60 °C
Ambient temperature, storage	−40 °C … +80 °C
Ambient temperature coaxial cable	−20 °C … +60 °C

Certificates

EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
Moroccan declaration of conformity	✓
China RoHS	✓
cULus certificate	✓
IO-Link certificate	✓

Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

Classifications

ECLASS 5.0	27200513
ECLASS 5.1.4	27200513
ECLASS 6.0	27200513
ECLASS 6.2	27200513
ECLASS 7.0	27200513
ECLASS 8.0	27200513
ECLASS 8.1	27200513
ECLASS 9.0	27200513
ECLASS 10.0	27200513
ECLASS 11.0	27200513
ECLASS 12.0	27200513
ETIM 5.0	EC001447
ETIM 6.0	EC001447
ETIM 7.0	EC001447
ETIM 8.0	EC001447
UNSPSC 16.0901	41113710

Dimensional drawing

C: Cable length
M: Measuring range
L: Probe length
IA: Inactive area at process connection
     20 mm (0.79") / 40 mm (1.58")
IAE: Inactive area at probe end 10 mm (0.39")
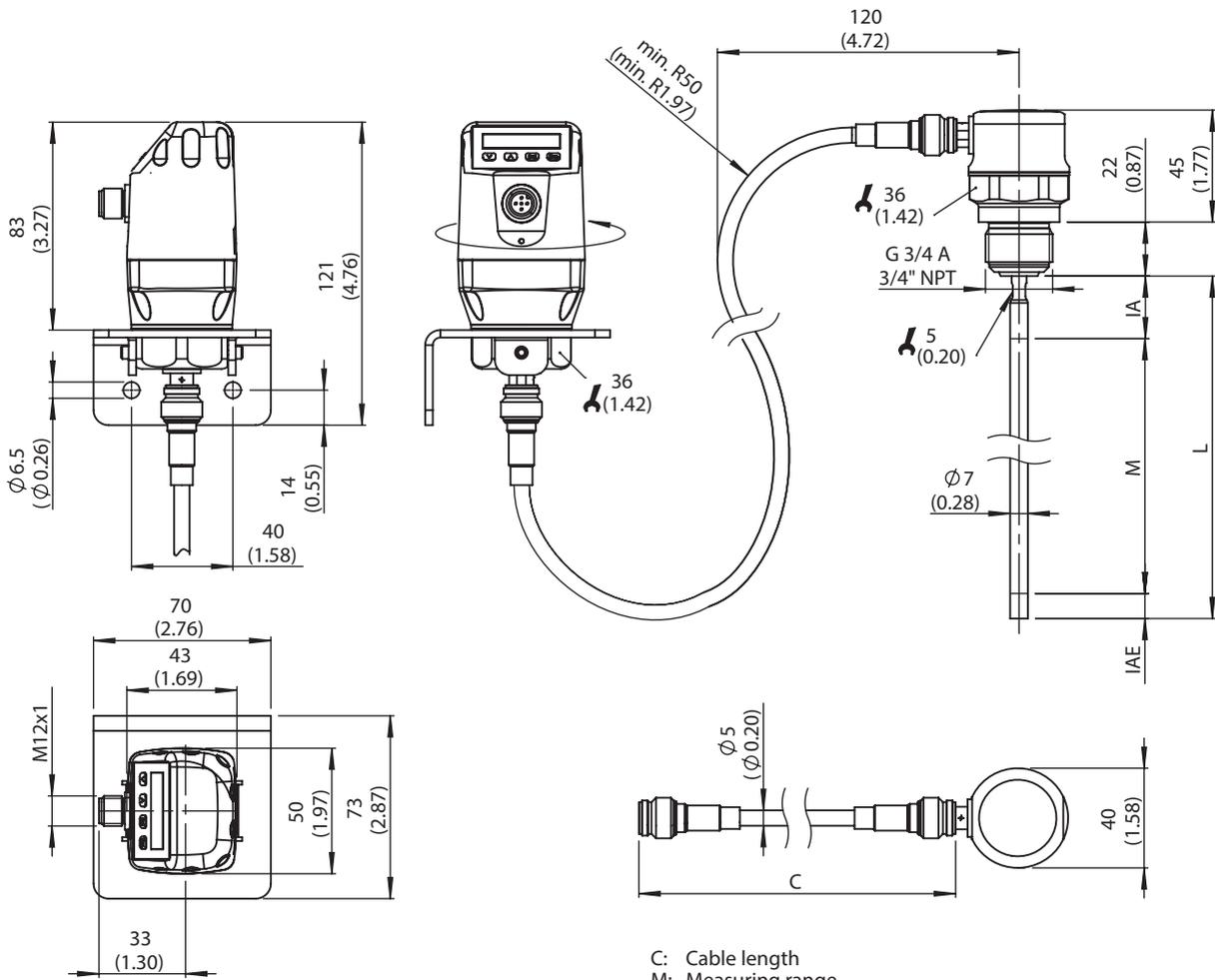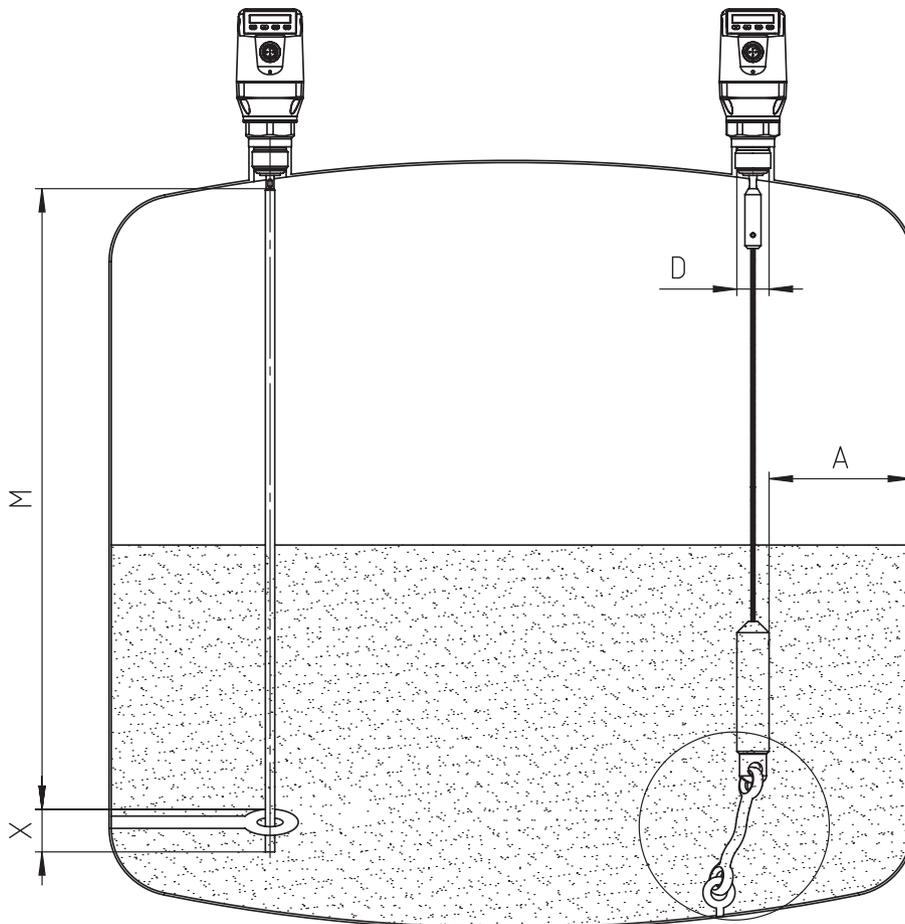
All dimensions in mm (inch)

Dimensions in mm (inch)

Connection type
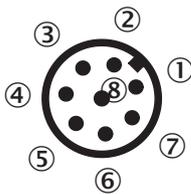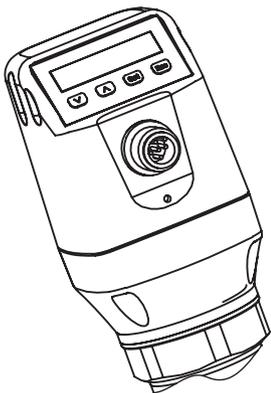
① L$^+$: Supply voltage

② Q$_2$: Switching output 2, PNP/NPN
③ M: Ground, reference ground for current-/voltage output
④ C/Q$_1$: Switching output 1, PNP/IO-Link-communication
⑤ Q$_3$: Switching output 3, PNP/NPN
⑥ Q$_4$: Switching output 4, PNP/NPN
⑦ Q$_A$: Analog current-/voltage output
⑧ No function

Instruction for installation

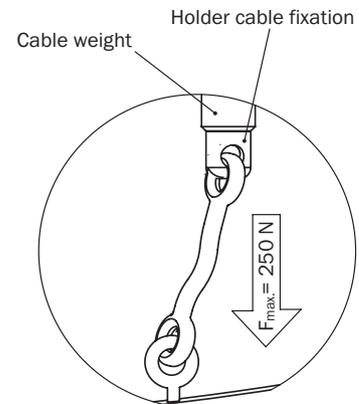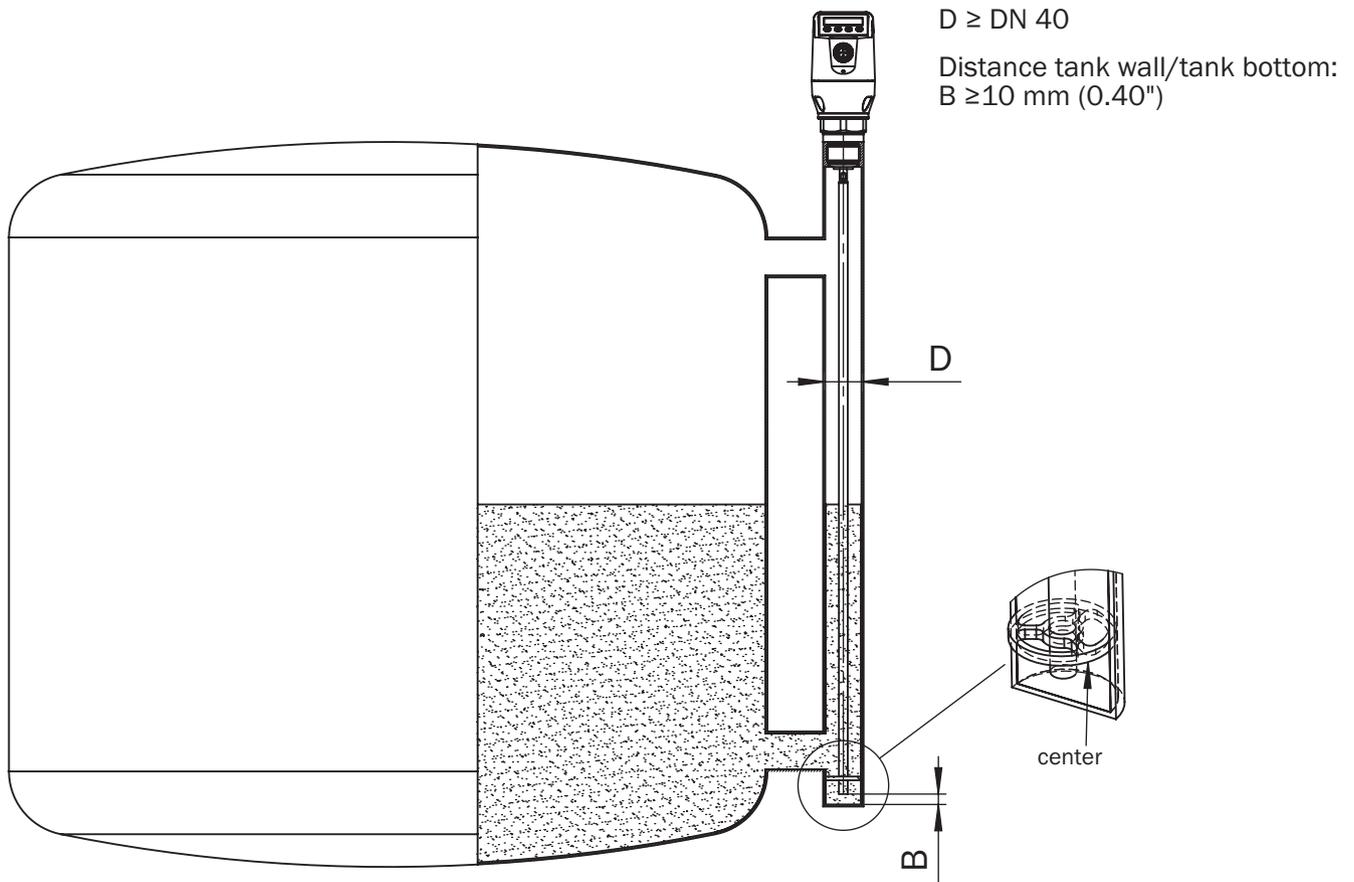**Mono rod probe mounted in metal tank**
M = Measuring range
X = Inactive area at probe end
    No measurement possible
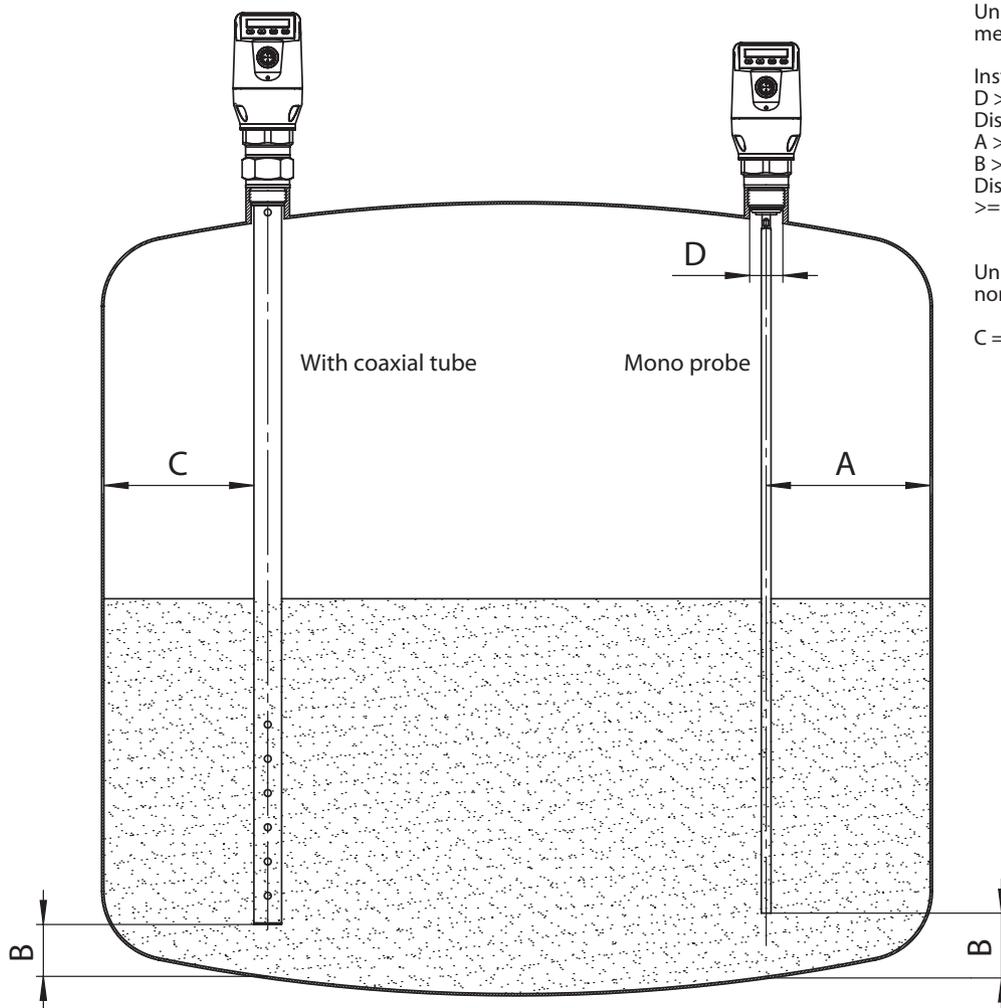
Rope probe mounted in metal tank
Installation in nozzle:
D ≥ DN 25 (1")
Distance tank wall/tank bottom:
A ≥ 50 mm (1.97")
Distance to other tank fittings:
≥ 100mm (3.94")

Cable weight | Holder cable fixation | $F_{max.}$ = 250 N

Instruction for installation Installation in a metal immersion tube or metal bypass

D ≥ DN 40

Distance tank wall/tank bottom:
B ≥10 mm (0.40")

center

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

With coaxial tube   Mono probe

Recommended accessories

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

Brief description	Type	part no.
Mounting systems		
• **Description:** Mounting bracket • **Material:** Stainless steel • **Details:** Stainless steel 1.4301 (AISI 304) • **Items supplied:** Mounting hardware included	BEF-FL-304LFP-HLDR	2077391
• **Description:** Spare cable probe for LFP Cubic, length 2 m	BEF-ER-SS2000-LFPC	2078194
• **Description:** Spare cable probe for LFP Cubic, length 4 m	BEF-ER-SS4000-LFPC	2078195
• **Description:** Spare cable probe for LFP Cubic, length 6 m	BEF-ER-SS6000-LFPC	2082147

Brief description	Type	part no.
connectors and cables		
	CBL-CX-001000-LFPC	2077792

SICK AT A GLANCE

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.

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For us, that is "Sensor Intelligence."

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