



LFP1000-F5DMC

LFP Cubic

LEVEL SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
LFP1000-F5DMC	1072029

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

Illustration may differ



Detailed technical data

Features

Medium	Fluids
Measurement	Switch, Continuous
Design	Remote amplifier, length of cable 3.3 m
Probe type	Cable probe
Probe length	1,000 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
Length of cable	3.3 m
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 $U_v \geq 14$ 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	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	¾" NPT
Housing material	Plastic PBT
Max. probe load	≤ 6 Nm
Material coaxial cable	PVC
Length coaxial cable	3.3 m

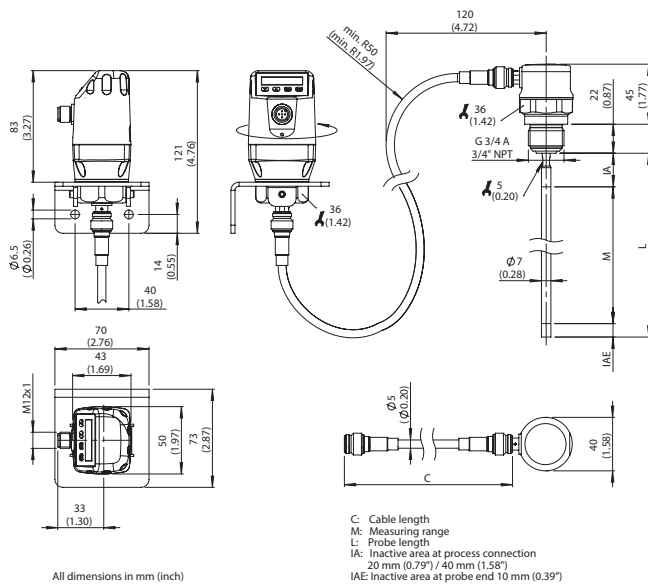
Ambient data

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

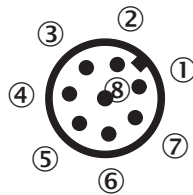
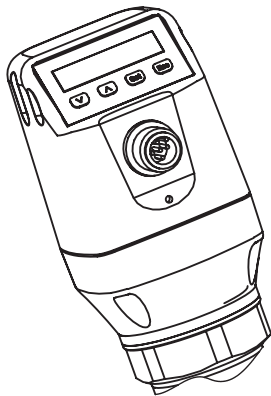
Classifications

ECI@ss 5.0	27200513
ECI@ss 5.1.4	27200513
ECI@ss 6.0	27200513
ECI@ss 6.2	27200513
ECI@ss 7.0	27200513
ECI@ss 8.0	27200513

Dimensional drawing (Dimensions in mm (inch))

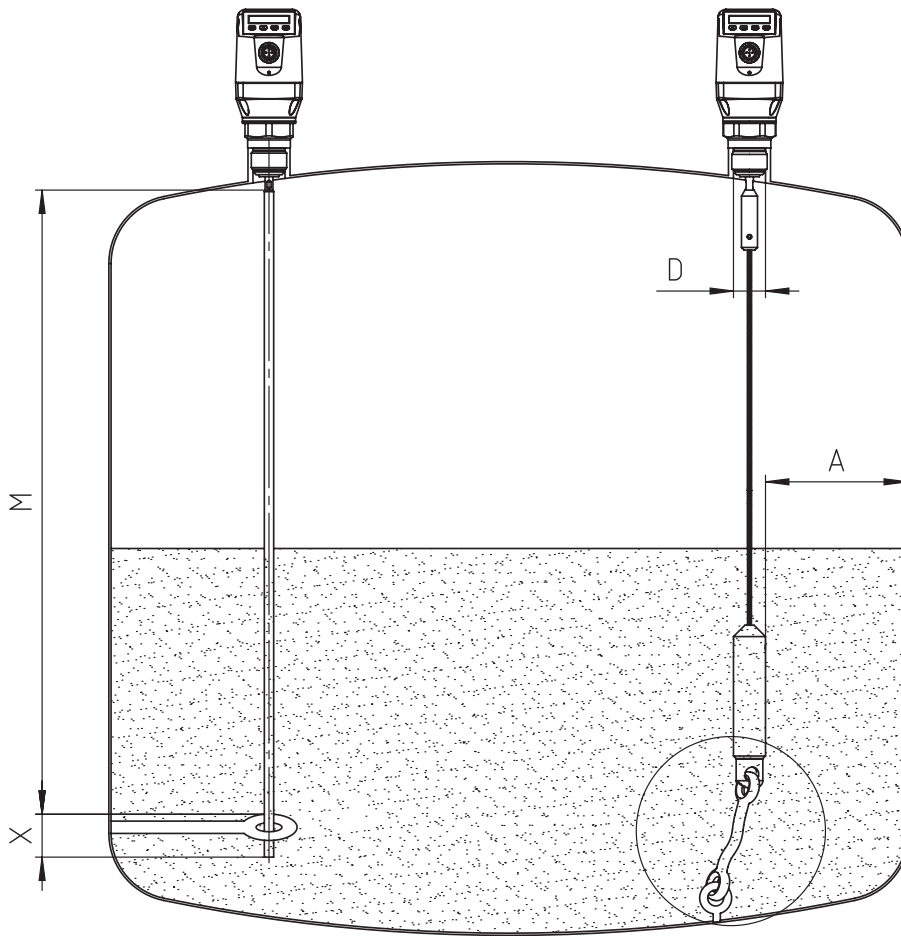


Connection type



- 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

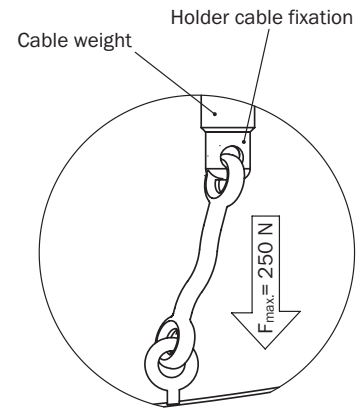


Mono rod probe mounted in metal tank

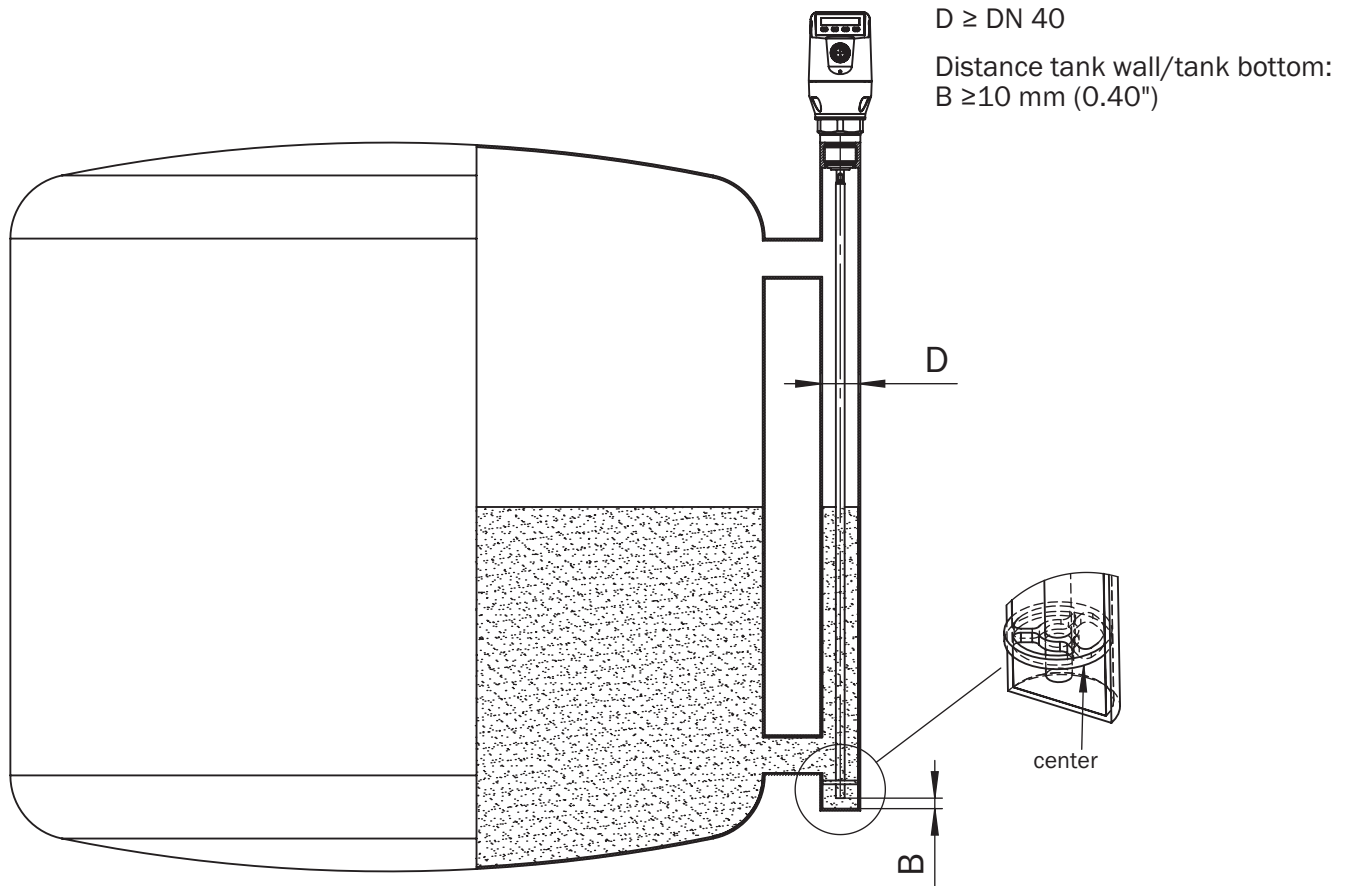
M = Measuring range
 X = Inactive area at probe end
 No measurement possible

Rope probe mounted in metal tank

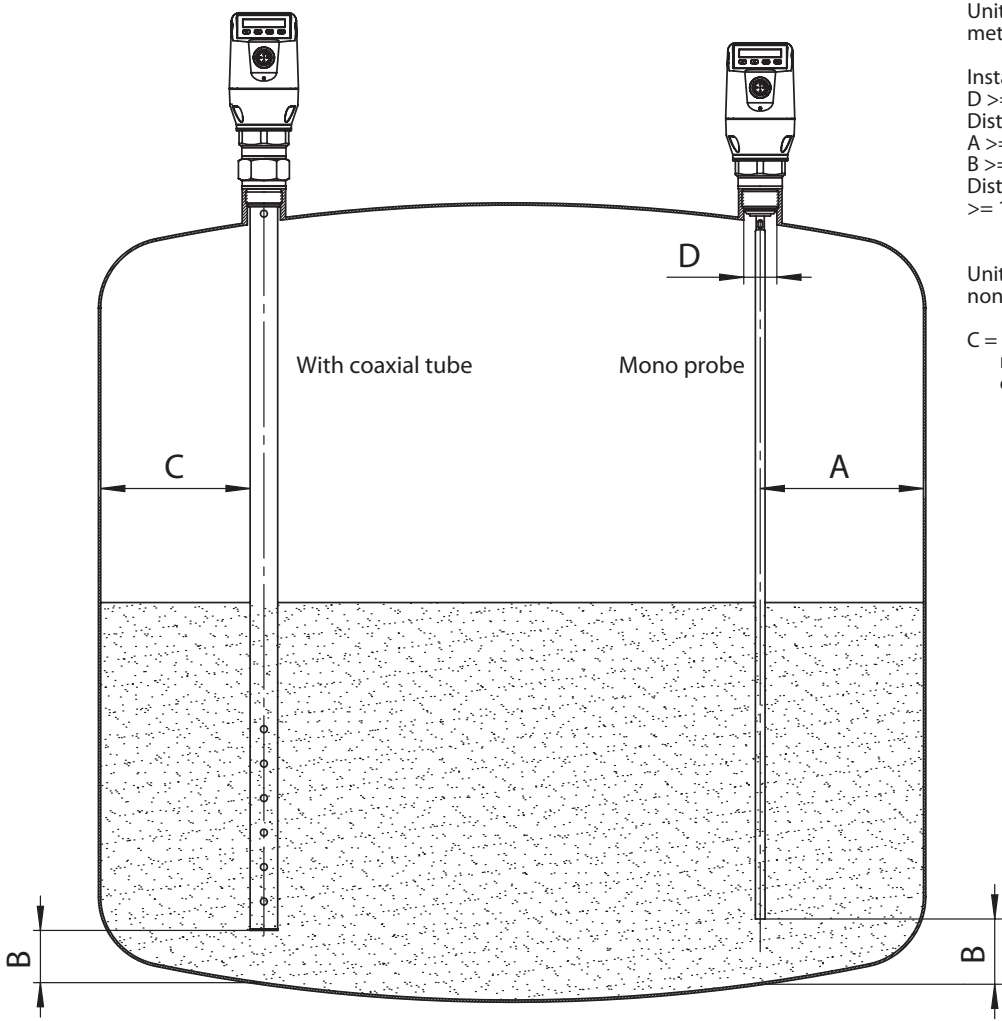
Installation in nozzle:
 $D \geq \text{DN } 25 \text{ (1")}$
 Distance tank wall/tank bottom:
 $A \geq 50 \text{ mm (1.97")}$
 Distance to other tank fittings:
 $\geq 100 \text{ mm (3.94")}$



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:

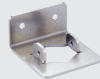
- D $\geq$ DN 25 (1")
- Distance tank wall/tank bottom:
 - A $\geq$ 50 mm (1.97")
 - B $\geq$ 10 mm (0.40")
- Distance to other tank fittings $\geq$ 100mm (3.94")

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

	Brief description	Type	Part no.
Mounting brackets and plates			
	Mounting bracket, stainless steel 1.4301 (AISI 304), mounting hardware included	BEF-FL-304LFP-HLDR	2077391
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

	Brief description	Type	Part no.
	Spare coaxial cable for LFP Cubic separate amplifier, length 3.3 m	CBL-CX-003300-LFPC	2077794

Recommended services

Additional services → www.sick.com/LFP_Cubic

	Type	Part no.
Function Block Factory		
Description: The Function Block Factory supports common programmable logic controllers (PLCs) from various manufacturers, such as Siemens, Beckhoff, Rockwell Automation and B&R. More information on the FBF can be found here.	Function Block Factory	On request

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