



LFP4000-F5BMC

LFP Cubic

LEVEL SENSORS

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
LFP4000-F5BMC	1072024

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

Illustration may differ



IO-Link



Detailed technical data

Features

Medium	Fluids
Measurement	Switch, Continuous
Design	Remote amplifier, length of cable 1 m
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
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 < 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	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	1 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

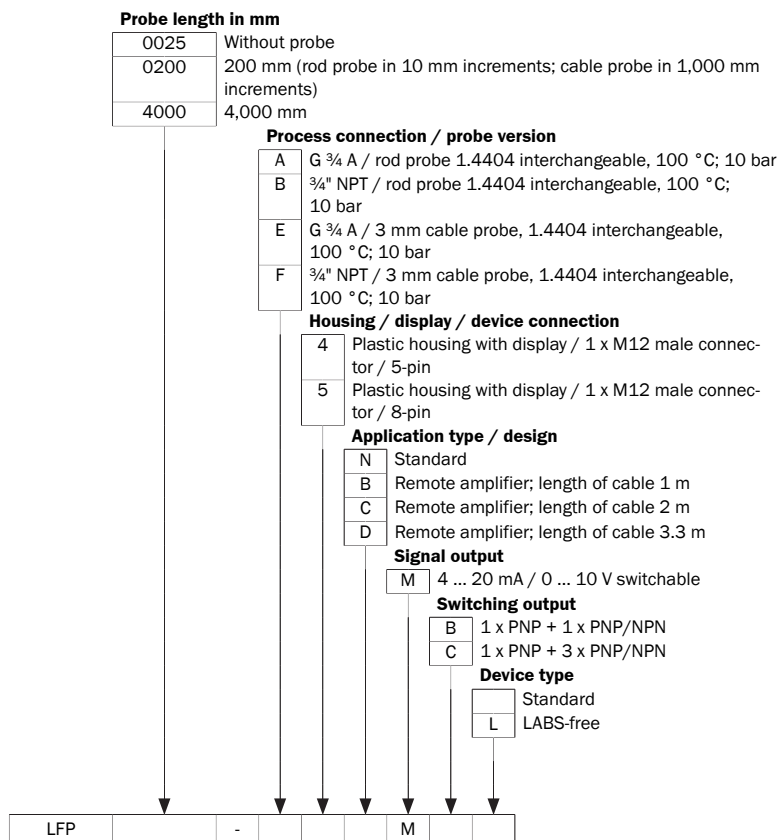
Classifications

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

ECI@ss 8.1	27200513
ECI@ss 9.0	27200513
ECI@ss 10.0	27200513
ECI@ss 11.0	27200513
ETIM 5.0	EC001447
ETIM 6.0	EC001447
ETIM 7.0	EC001447
UNSPSC 16.0901	41113710

Type code

Type code

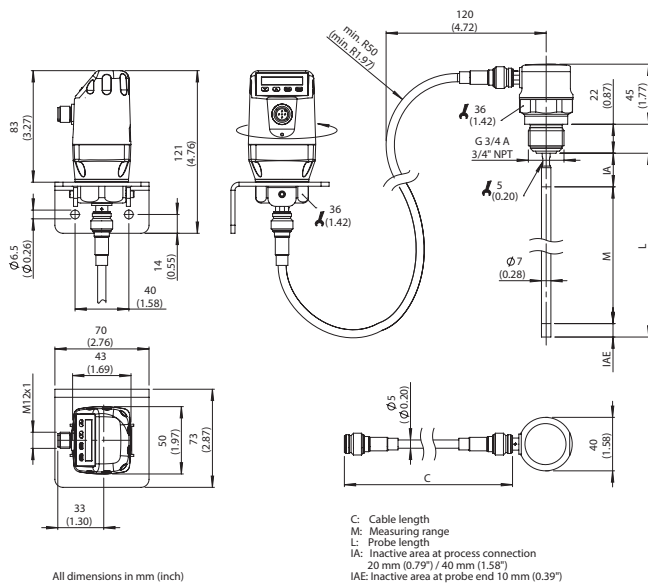


Not all variants of the type code can be combined!

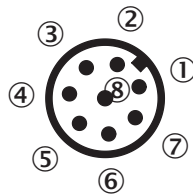
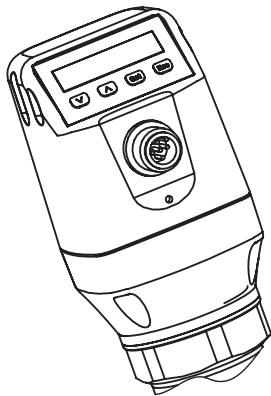
Dependence between length of coaxial cable and probe length

Length of coaxial cable (mm)	Max. probe length (mm) foam mode deactivated	Max. probe length (mm) foam mode active
1000	4,000	2000
2000	3,000	1500
3300	1,000	500

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

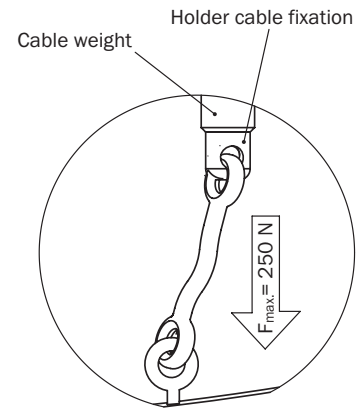


Mono rod probe mounted in metal tank

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

Rope probe mounted in metal tank

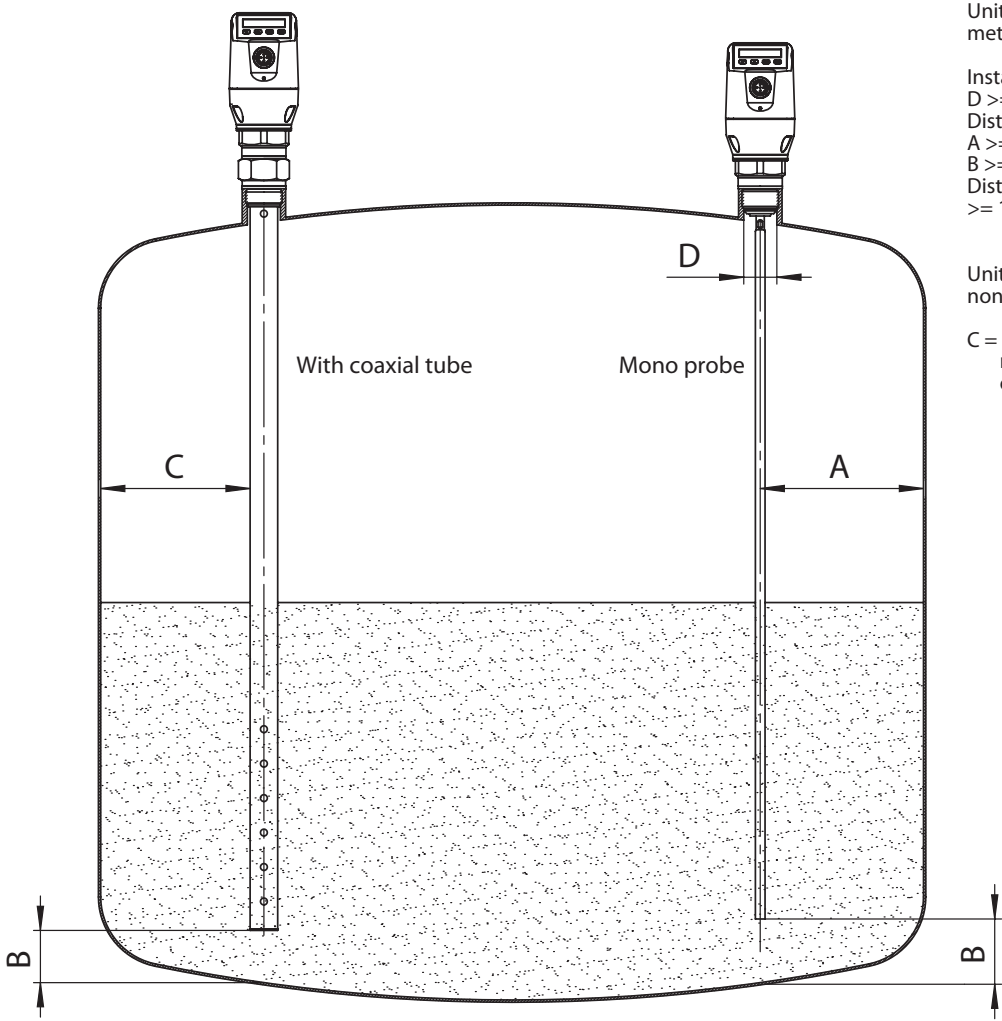
Installation in nozzle:
 $D \geq \text{DN } 25 \text{ (1")}$
 Distance tank wall/tank bottom:
 $A \geq 50 \text{ mm (1.97")}$
 Distance to other tank fittings:
 $\geq 100 \text{ mm (3.94")}$



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 1 m	CBL-CX-001000-LFPC	2077792

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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