



LFP0450-A4NMB

LFP Cubic

TDR LEVEL SENSOR

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	Part no.
LFP0450-A4NMB	1068468

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

Detailed technical data

Features

Medium	Fluids
Measurement	Switch, Continuous
Design	Standard
Probe type	Rod probe
Probe length	450 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⁾

¹⁾ With water under reference conditions.

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

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

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	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 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
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	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

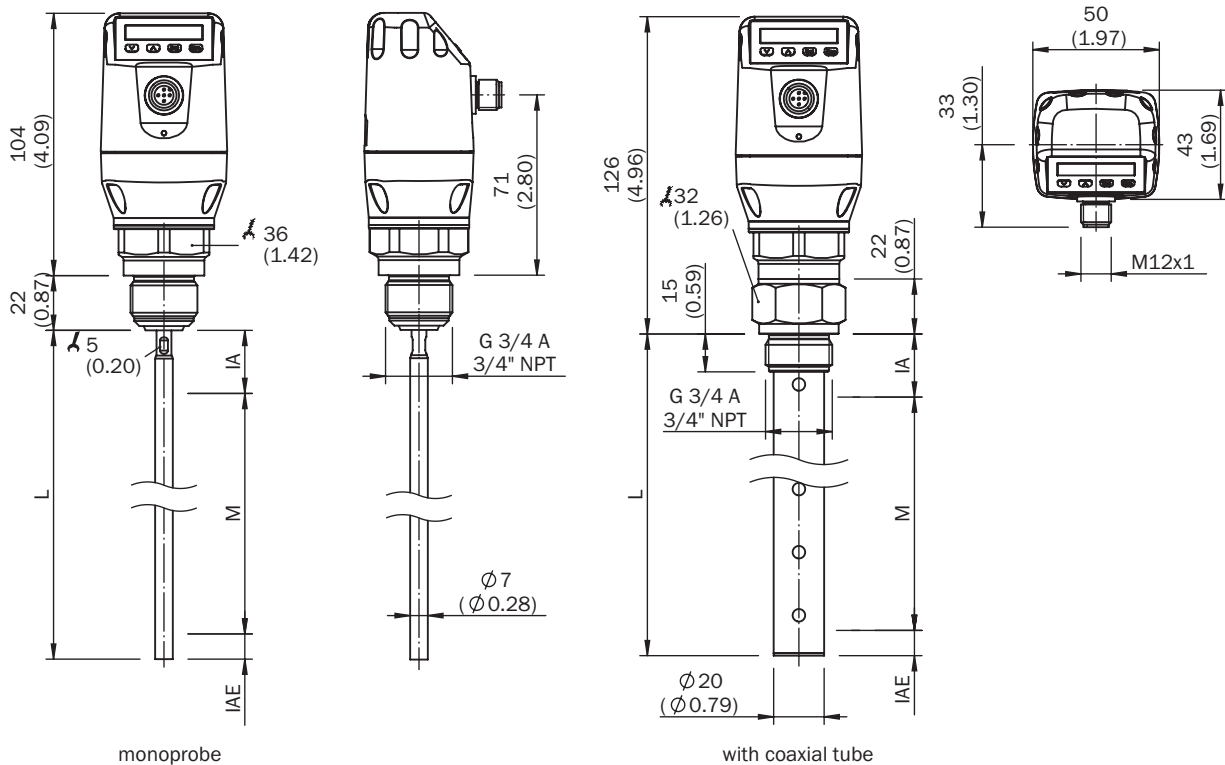
Classifications

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 (Dimensions in mm (inch))

Dimensional drawing: 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")

Recommended accessories

Spare parts

Device protection (mechanical)

Protective housings and protective pipes

Flanges

Flange plates

Weld-in flange

Mounting brackets and plates

Mounting brackets

Plug connectors and cables

Connecting cables

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

Brief description	Type	Part no.
<ul style="list-style-type: none"> Accessory group: Spare parts Description: Spare probe for LFP Cubic, probe length 1000 mm, material 1.4404/316L, diameter 7 mm 	BEF-ER-SN1000-LFPC	2065700
<ul style="list-style-type: none"> Accessory group: Spare parts Description: Spare probe for LFP Cubic, probe length 2000 mm, material 1.4404/316L, diameter 7 mm 	BEF-ER-SN2000-LFPC	2065701
Brief description	Type	Part no.
<ul style="list-style-type: none"> Description: 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
<ul style="list-style-type: none"> Description: 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
<ul style="list-style-type: none"> Description: 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
<ul style="list-style-type: none"> Description: 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
<ul style="list-style-type: none"> Description: 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
<ul style="list-style-type: none"> Description: 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
<ul style="list-style-type: none"> Description: 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
<ul style="list-style-type: none"> Description: 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
<ul style="list-style-type: none"> Description: 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
<ul style="list-style-type: none"> Description: 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
<ul style="list-style-type: none"> Description: 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
<ul style="list-style-type: none"> Description: 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
<ul style="list-style-type: none"> Description: 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
<ul style="list-style-type: none"> Description: 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

Brief description	Type	Part no.
<ul style="list-style-type: none"> Description: 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
<ul style="list-style-type: none"> Description: 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
<ul style="list-style-type: none"> Description: 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 1800 mm 	LFPCT-1800G1	2068155
<ul style="list-style-type: none"> Description: 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
<ul style="list-style-type: none"> Description: 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
Brief description	Type	Part no.
<ul style="list-style-type: none"> Description: Process connection adapter G 3/4 to G1 	BEF-HA-G1BSP1-LFP1	2067603
Brief description	Type	Part no.
<ul style="list-style-type: none"> Description: Weld-in flange G 3/4" 	BEF-FL-GEWG34-LFP1	2082150
Brief description	Type	Part no.
<ul style="list-style-type: none"> Description: Mounting bracket Details: Stainless steel 1.4301 (AISI 304) Items supplied: Mounting hardware included 	BEF-FL-304LFP-HLDR	2077391
Brief description	Type	Part no.
<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot 	YF2A15-020UB5XLEAX	2095617
<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 5-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals 	YF2A15-020VB5XLEAX	2096239
<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot 	YF2A15-050UB5XLEAX	2095618
<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 5-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals 	YF2A15-050VB5XLEAX	2096240
<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot 	YF2A15-100UB5XLEAX	2095619

Brief description	Type	Part no.
<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 5-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals 	YF2A15-100VB5XLEAX	2096241
<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot 	YG2A15-020UB5XLEAX	2095772
<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 5-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals 	YG2A15-020VB5XLEAX	2096215
<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot 	YG2A15-050UB5XLEAX	2095773
<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 5-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals 	YG2A15-050VB5XLEAX	2096216
<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 5-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot 	YG2A15-100UB5XLEAX	2095774
<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, angled, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 5-wire, PVC Description: Sensor/actuator cable, unshielded Application: Zones with chemicals 	YG2A15-100VB5XLEAX	2096217

Recommended services

Additional services → www.sick.com/LFP_Cubic

	Type	Part no.
Function Block Factory		
<ul style="list-style-type: none"> 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 <a _blank"="" href="https://fbf.cloud.sick.com target=">here. Note: You can configure your function block at <a _blank"="" href="https://fbf.cloud.sick.com target=">Function Block Factory. As a login please use your SICK ID. 	Function Block Factory	On request

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.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com