



LFP2000-NCNMC

LFP Inox

TDR LEVEL SENSOR

SICK
Sensor Intelligence.



Ordering information

Type	Part no.
LFP2000-NCNMC	1080636

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

Illustration may differ



Detailed technical data

Features

Medium	Fluids
Measurement	Switch, Continuous
Design	Standard
Probe length	2,000 mm
Process pressure	-1 bar ... 16 bar
Process temperature	-20 °C ... +150 °C
UL approval	✓
RoHS certificate	✓
IO-Link	✓
EHEDG approval	✓

Performance

Accuracy of sensor element	± 5 mm
Reproducibility	≤ 2 mm
Resolution	1 mm
Response time	< 400 ms ¹⁾
Dielectricity constant	≥ 5 for rod probe ≥ 1.8 with coaxial tube
Conductivity	No limitation
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)

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.

Display	✓
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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

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	Cable connector M12 x 1, 8-polig
Length of cable	10 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 > 13,5 V, 4 mA ... 20 mA < 400 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 / 69: 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.

Mechanics

Wetted parts	316L (Ra ≤ 0,8 μm), PEEK
Process connection	¾" NPT
Housing material	303
Housing design	With viewing window made from PMMA (acrylic glass)
Max. probe load	≤ 6 Nm
Length coaxial cable	10 m

Ambient data

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

Classifications

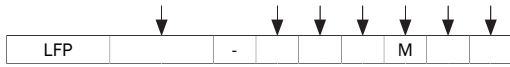
ECLASS 5.0	27200513
ECLASS 5.1.4	27200513
ECLASS 6.0	27200513
ECLASS 6.2	27200513
ECLASS 7.0	27200513

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

Type code

Type code

Probe length in mm	
0025	Without probe
0200	200 mm (in increments of 10 mm)
4000	4,000 mm
Process connection/probe version	
C	G ¾ A; probe rod 1.4404 interchangeable; 150 °C 16 bar
D	¾" NPT; probe rod 1.4404 interchangeable; 150 °C 16 bar
G	G ¾ A (connection for hygienic adapters) / probe rod made from 1.4404
N	¾" NPT/probe rod from 1.4404
P	G ¾ A (connection for pharmaceutical process connection) / probe rod made of 1.4404, Ra ≤ 0.4 µm (verification), 150 °C, 16 bar, 3.1 material certificate, calibration certificate
Housing/display/device connection	
1	Stainless-steel housing with display, cover with sight glass / 1 x 5-pin M12 male connector
2	Stainless-steel housing with display, solid cover / 1 x 5-pin M12 male connector
3	Stainless-steel housing 3-A-compliant with display, solid cover / 1 x 5-pin M12 male connector
6	Stainless-steel housing with display, cover with sight glass / 1 x 8-pin M12 male connector
7	Stainless-steel housing with display, solid cover / 1 x 8-pin M12 male connector
A	Stainless-steel housing with display, cover with sight glass/cable connection, 5-pin
B	Stainless-steel housing with display, solid cover/cable connection, 5-pin
C	Stainless-steel housing with display, cover with sight glass/cable connection, 8-pin
D	Stainless-steel housing with display, solid cover/cable connection, 8-pin
Application type/design	
N	Standard
B	Remote amplifier; length of cable 1 m
C	Remote amplifier; length of cable 2 m
D	Remote amplifier; length of cable 3.3 m
Signal output	
M	4 ... 20 mA / 0 ...10 V, switchable
Switching output	
B	1 x PNP + 1 x PNP/NPN
C	1 x PNP + 3 x PNP/NPN
Device type	
	Standard
L	LABS-cleaned

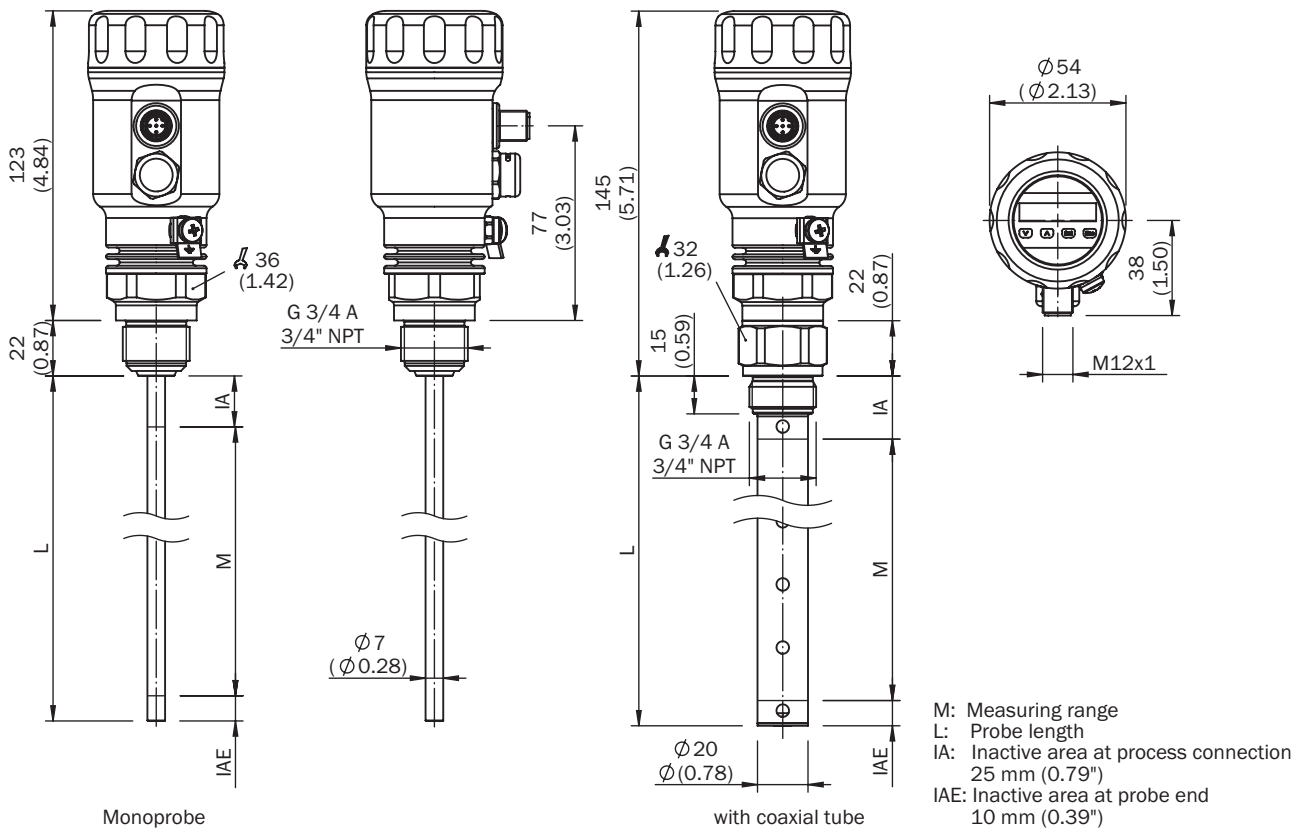
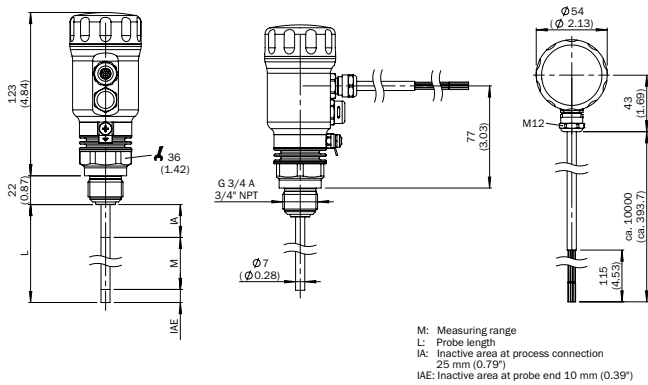


Not all variants of the type code can be combined!

Dependence between length of coaxial cable and probe length

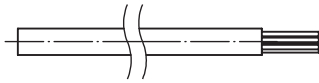
Length of coaxial cable (mm)	Max. probe length (mm) - foam mode deactivated	Max. probe length (mm) - foam mode active
1000	4,000	2000
2000	3,000	1500
3300	1,000	500

Dimensional drawing (Dimensions in mm (inch))



Connection type








Cable connector, 8-pin





- ① L⁺: Supply voltage, white
- ② Q₂: Switching output 2, PNP/NPN, brown
- ③ M: Ground, reference ground for current-/voltage output, green
- ④ C/Q₁: Switching output 1, PNP/IO-Link-communication, yellow
- ⑤ Q₃: Switching output 3, PNP/NPN, gray
- ⑥ Q₄: Switching output 4, PNP/NPN, rose
- ⑦ Q_A: Analog current-/voltage output, blue
- ⑧ No function, red

Recommended accessories

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

	Brief description	Type	Part no.
Hardware			
	Weather protection cover for LFP Inox, material: 304	APR-WP-LFP001-0001	2069530
Spare parts			
	Cover closed, material 1.4305	Cover closed	2067269
	Cover for LFP Inox with inspection window, material 1.4305 and PMMA	Cover with front screen	2067267
Flanges			
	Hygienic process connection adapter, Tri-Clamp 1" and 1 1/2", including acceptance test certificate 3.1; Ra ≤ 0.4 µm, hygienic in accordance with EHEDG in combination with T-seals or Tri-Clamp seals from Combifit International B.V.	BEF-HA-TCLI10-LFP2	2126242
	Hygienic process connection adapter, Tri-Clamp 2"; including acceptance test certificate 3.1; Ra ≤ 0.4 µm, hygienic in accordance with EHEDG in combination with T-seals or Tri-Clamp seals from Combifit International B.V.	BEF-HA-TCLI20-LFP2	2126243
	Weld-in flange, hygienic, G 3/4" including acceptance test certificate 3.1, Ra ≤ 0.4 µm, Stainless steel 1.4404	BEF-HA-SWFL54-LFP2	2122489
Plug connectors and cables			
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 5-wire, PVC • Description: Sensor/actuator cable, unshielded • Connection systems: Flying leads • Note: This product is generally resistant to chemical cleaning agents (see ECOLAB). Please do not use cleaning agents of any other Kind., Not resistant against lactic acid & hydrogen peroxide (H2O2) • Application: Hygienic and washdown zones 	DOL-1205-G02MNI	6052625

	Brief description	Type	Part no.
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 2 m, 5-wire, PP • Description: Sensor/actuator cable, unshielded • Connection systems: Flying leads • Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) • Application: Hygienic and washdown zones, Drag chain operation 	DOL-1205-G02MRN	6058494
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 5-wire, PVC • Description: Sensor/actuator cable, unshielded • Connection systems: Flying leads • Note: This product is generally resistant to chemical cleaning agents (see ECOLAB). Please do not use cleaning agents of any other Kind., Not resistant against lactic acid & hydrogen peroxide (H2O2) • Application: Hygienic and washdown zones 	DOL-1205-G05MNI	6052626
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 5 m, 5-wire, PP • Description: Sensor/actuator cable, unshielded • Connection systems: Flying leads • Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) • Application: Hygienic and washdown zones, Drag chain operation 	DOL-1205-G05MRN	6058495
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 10 m, 5-wire, PVC • Description: Sensor/actuator cable, unshielded • Connection systems: Flying leads • Note: This product is generally resistant to chemical cleaning agents (see ECOLAB). Please do not use cleaning agents of any other Kind., Not resistant against lactic acid & hydrogen peroxide (H2O2) • Application: Hygienic and washdown zones 	DOL-1205-G10MNI	6052627
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 10 m, 5-wire, PP • Description: Sensor/actuator cable, unshielded • Connection systems: Flying leads • Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) • Application: Hygienic and washdown zones, Drag chain operation 	DOL-1205-G10MRN	6058496
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 25 m, 5-wire, PVC • Description: Sensor/actuator cable, unshielded • Connection systems: Flying leads • Note: This product is generally resistant to chemical cleaning agents (see ECOLAB). Please do not use cleaning agents of any other Kind., Not resistant against lactic acid & hydrogen peroxide (H2O2) • Application: Hygienic and washdown zones 	DOL-1205-G25MNI	6052628

	Brief description	Type	Part no.
	<ul style="list-style-type: none"> • Connection type head A: Female connector, M12, 5-pin, straight • Connection type head B: Flying leads • Signal type: Sensor/actuator cable • Cable: 25 m, 5-wire, PP • Description: Sensor/actuator cable, unshielded • Connection systems: Flying leads • Note: This product is generally resistant to chemical cleaning agents (see ECOLAB) and other chemical compounds such as H2O2 and CH2O2. Before permanent installation is carried out, the material's resistance to the cleaning agent being used must be checked., Resistant against lactic acid & hydrogen peroxide (H2O2) • Application: Hygienic and washdown zones, Drag chain operation 	DOL-1205-G25MRN	6058497
Terminal and alignment brackets			
	1 piece, Centering for bypass- and immersion tube installation with diameter 40 mm ... 100 mm, PTFE	BEF-FL-BYRD40-LFP1	2059612

Recommended services

Additional services → www.sick.com/LFP_Inox

	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">="" a>.<="" here<="" href="https://fbf.cloud.sick.com target=" li=""> • Note: You can configure your function block at <a _blank">="" a="" a>="" as="" block="" factory.<="" function="" href="https://fbf.cloud.sick.com target=" id.<="" li="" login="" please="" sick="" use="" your=""> 	Function Block Factory	On request

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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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