



# LFP2000-G1NMB

LFP Inox

**TDR LEVEL SENSOR**

**SICK**  
Sensor Intelligence.



Illustration may differ



IO-Link



## Ordering information

Type	Part no.
LFP2000-G1NMB	1052085

Other models and accessories → [www.sick.com/LFP\\_Inox](http://www.sick.com/LFP_Inox)

## Detailed technical data

### Features

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

### Performance

<b>Accuracy of sensor element</b>	± 5 mm
<b>Reproducibility</b>	≤ 2 mm
<b>Resolution</b>	1 mm
<b>Response time</b>	< 400 ms <sup>1)</sup>
<b>Dielectricity constant</b>	≥ 5 for rod probe ≥ 1.8 with coaxial tube
<b>Conductivity</b>	No limitation
<b>Deactivated area at process connection</b>	25 mm <sup>2)</sup>
<b>Deactivated area at end of probe</b>	≥ 10 mm <sup>3)</sup>
<b>MTTF</b>	194.3 years (EN ISO 13849-1)

<sup>1)</sup> Dependent on measuring mode (high speed < 400 ms, high accuracy < 2,800 ms).

<sup>2)</sup> With parameterized container with water under reference conditions, otherwise 40 mm.

<sup>3)</sup> With water under reference conditions.

## Electronics

<b>Supply voltage</b>	12 V DC ... 30 V DC <sup>1)</sup>
<b>Power consumption</b>	≤ 75 mA at 24 V DC without output load
<b>Initialization time</b>	≤ 2 s
<b>Protection class</b>	III
<b>Connection type</b>	Round connector M12 x 1, 5-pin
<b>Output signal</b>	1 x PNP + 1 x PNP/NPN + 4 mA ... 20 mA / 0 V ... 10 V
<b>Output load</b>	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 $U_v \geq 14$ V
<b>Hysteresis</b>	Min. 2 mm, free adjustable
<b>Output current</b>	< 100 mA
<b>Inductive load</b>	< 1 H
<b>Capacitive load</b>	< 100 nF
<b>Enclosure rating</b>	IP67: EN 60529, IP69K: ISO 20653
<b>Temperature drift</b>	< 0.1 mm/K
<b>Lower signal level</b>	3.8 mA ... 4 mA, 0 V
<b>Upper signal level</b>	20 mA ... 20.5 mA, 10.5 V
<b>EMC</b>	EN 61326-2-3, 2014/30/EU

<sup>1)</sup> All connections are polarity protected. All outputs are overload and short-circuit protected.

## Mechanics

<b>Wetted parts</b>	316L ( $R_a \leq 0,8 \mu\text{m}$ ), PEEK
<b>Process connection</b>	G $\frac{3}{4}$ A
<b>Housing material</b>	303
<b>Housing design</b>	With viewing window made from PMMA (acrylic glass)
<b>Max. probe load</b>	≤ 6 Nm

## Ambient data

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

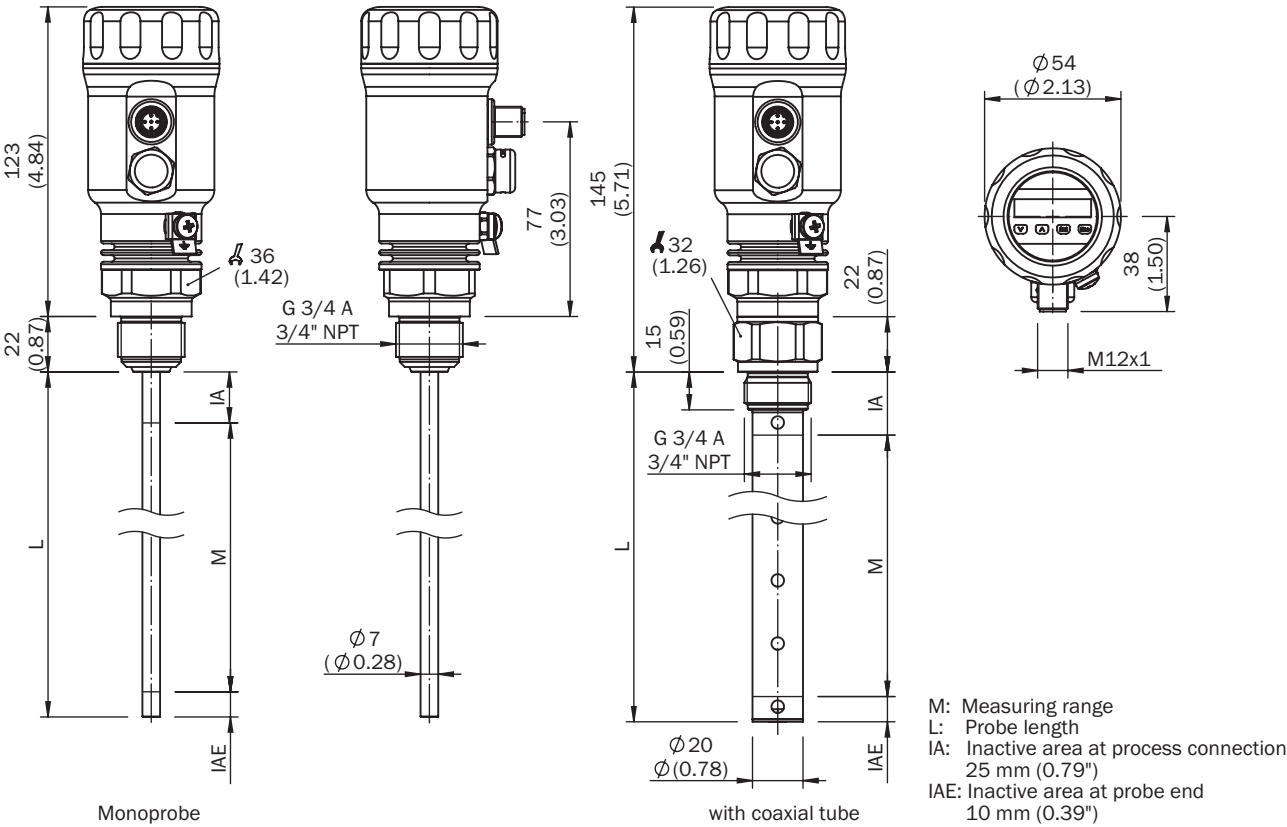
## Classifications

<b>eCl@ss 5.0</b>	27200513
<b>eCl@ss 5.1.4</b>	27200513
<b>eCl@ss 6.0</b>	27200513
<b>eCl@ss 6.2</b>	27200513
<b>eCl@ss 7.0</b>	27200513
<b>eCl@ss 8.0</b>	27200513
<b>eCl@ss 8.1</b>	27200513
<b>eCl@ss 9.0</b>	27200513
<b>eCl@ss 10.0</b>	27200513
<b>eCl@ss 11.0</b>	27200513



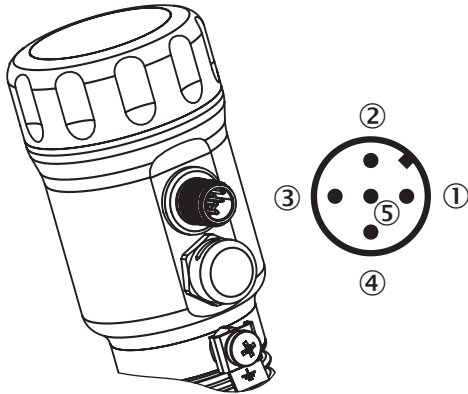
Length of coaxial cable (mm)	Max. probe length (mm) - foam mode deactivated	Max. probe length (mm) - foam mode active
2000	3,000	1500
3300	1,000	500

Dimensional drawing (Dimensions in mm (inch))



### Connection type





5-pole M12 Connector















- ① L<sup>+</sup>: Supply voltage, brown
- ② Q<sub>A</sub>: Analog current-/voltage output, white
- ③ M: Ground, reference ground for current-/voltage output, blue
- ④ C/Q<sub>1</sub>: Switching output 1, PNP/IO-Link-communication, black
- ⑤ Q<sub>2</sub>: Switching output 2, PNP/NPN, grey

### Recommended accessories

Other models and accessories → [www.sick.com/LFP\\_Inox](http://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
Device protection (mechanical)			
	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
	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
	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
	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
	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
	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

	Brief description	Type	Part no.
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
	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
Flanges			
	Hygienic process connection adapter, coupling (DIN 11864-1) DN 25 form A with union nut; hygienic in accordance with EHEDG	BEF-HA-641D25-LFP1	2058795
	Hygienic process connection adapter, coupling (DIN 11864-2) DN 25 form A; hygienic in accordance with EHEDG	BEF-HA-642D25-LFP1	2058823
	Hygienic process connection adapter, clamp coupling (DIN 11864-3) BKS DN 25 form A, hygienic in accordance with EHEDG	BEF-HA-643D25-LFP1	2058821
	Hygienic process connection adapter, conical coupling (DIN 11851), DN 25 with grooved cap nut; hygienic in accordance with EHEDG in combination with ASEPTO-STAR k-flex upgrade gaskets from Kieselmann GmbH or SKS gasket set DIN 11851 EHEDG with EPDM or FKM inner gasket from Siersema Komponenten Service (S.K.S.) B.V	BEF-HA-851D25-LFP1	2058138
	Hygienic process connection adapter, conical coupling (DIN 11851), DN 40 with grooved cap nut, material 1.4404 (Ra ≤ 0.8 µm); hygienic in accordance with EHEDG in combination with ASEPTO-STAR k-flex upgrade gaskets from Kieselmann GmbH or SKS gasket set DIN 11851 EHEDG with EPDM or FKM inner gasket from Siersema Komponenten Service (S.K.S.) B.V	BEF-HA-851D40-LFP1	2058139
	Hygienic process connection adapter, conical coupling (DIN 11851), DN 50 with grooved cap nut; hygienic in accordance with EHEDG in combination with ASEPTO-STAR k-flex upgrade gaskets from Kieselmann GmbH or SKS gasket set DIN 11851 EHEDG with EPDM or FKM inner gasket from Siersema Komponenten Service (S.K.S.) B.V	BEF-HA-851D50-LFP1	2058141
	Hygienic process connection adapter, conical coupling (DIN 11851), DN 65 with grooved cap nut; hygienic in accordance with EHEDG in combination with ASEPTO-STAR k-flex upgrade gaskets from Kieselmann GmbH or SKS gasket set DIN 11851 EHEDG with EPDM or FKM inner gasket from Siersema Komponenten Service (S.K.S.) B.V	BEF-HA-851D65-LFP1	2063328

	Brief description	Type	Part no.
	Hygienic process connection adapter, Tri-Clamp 1" and 1 ½"; hygienic in accordance with EHEDG in combination with T-seals or Tri-Clamp seals from Combifit International B.V.	BEF-HA-TCLI10-LFP1	2058808
	Hygienic process connection adapter, Tri-Clamp 1" and 1 ½", 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 1" and 1 ½" with leakage indication port according to 3-A guidelines	BEF-HA-TCLI10-LFP3	2058851
	Hygienic process connection adapter, Tri-Clamp 2"; hygienic in accordance with EHEDG in combination with T-seals or Tri-Clamp seals from Combifit International B.V.	BEF-HA-TCLI20-LFP1	2058824
	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
	Hygienic process connection adapter, Tri-Clamp 2 ½"; hygienic in accordance with EHEDG in combination with T-seals or Tri-Clamp seals from Combifit International B.V.	BEF-HA-TCLI25-LFP1	2069518
	Hygienic process connection adapter, Varivent connection form N; hygienic in accordance with EHEDG in combination with EPDM O-ring	BEF-HA-VAR-TYN-LFP1	2058822
	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
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



## 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.”**

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