



SICK Sensor Intelligence.

LEVEL SENSORS

LEVEL SENSORS



Ordering information

Туре	Part no.
LFP0300-N1BMB	1089060

2077391 included in delivery

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





Detailed technical data

Features

Medium	Fluids
Measurement	Switch, Continuous
Design	Remote amplifier, length of cable 1 m
Probe length	300 mm
Process pressure	-1 bar 16 bar
Process temperature	-20 °C +180 °C
UL approval	✓
RoHS certificate	✓
IO-Link	✓
EHEDG approval	\checkmark

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)
Display	\checkmark

 $^{1)}$ 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.

 $^{\rm 3)}$ With water under reference conditions.

Electronics

LIEGUIUIIUS	
Communication interface	IO-Link
Supply voltage	12 V DC 30 V DC ¹⁾
Power consumption	\leq 75 mA at 24 V DC without output load
Initialization time	≤2s
Protection class	III
Connection type	Round connector M12 x 1, 5-pin
Length of cable	1 m
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 Uv > 13,5 V, 4 mA 20 mA < 400 Ohm at Uv > 12 V, 0 V 10 V > 750 Ohm at Uv 14 \geq V
Hysteresis	Min. 2 mm, free adjustable
Output current	< 100 mA
Inductive load	<1H
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

 $^{\left(1\right) }$ All connections are polarity protected. All outputs are overload and short-circuit protected.

Mechanics

Wetted parts	316L (Ra ≤ 0,8 µm), PEEK	
Process connection	34" NPT	
Housing material	303	
Housing design	With viewing window made from PMMA (acrylic glass)	
Max. probe load	≤ 6 Nm	
Material coaxial cable FEP		
Length coaxial cable	1 m	
Ambient data		
Ambient operating temperature -20 °C +60 °C		
Ambient temperature, storage -40 °C +80 °C		
Ambient temperature coaxial cable	-20 °C +60 °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	

27200513

ECLASS 8.0

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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

0025	ngth in mm Without probe
0020	200 mm (in increments of 10 mm)
4000	4,000 mm
1000	Process connection/probe version
	C G ³ / ₄ A; probe rod 1.4404 interchangeable; 150 °C 16 bar
	D $3/4$ " NPT; probe rod 1.4404 interchangeable; 150 °C 16 bar
	G G ³ / ₄ A (connection for hygienic adapters) / probe rod made
	from 1.4404
	N 3/4" NPT/probe rod from 1.4404
	P G 3 A (connection for pharmaceutical process connection) / probe rod made of 1.4404, Ra \leq 0.4 µm (verifica-
	tion), 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, sol-
	id 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 / 010 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
+	* * * * * *
	- M

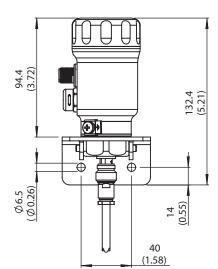
Not all variants of the type code can be combined!

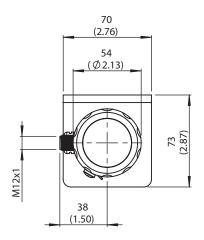
Dependence between length of coaxial cable and probe length

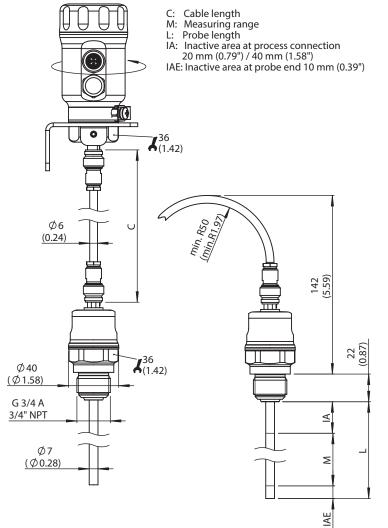
Length of coaxial cable (mm)	Max. probe length (mm) - foam mode deactivated	Max. probe length (mm) - foam mode active
1000	4,000	2000
2000	3,000	1500
3300	1,000	500

Dimensional drawing (Dimensions in mm (inch))

Remote amplifier





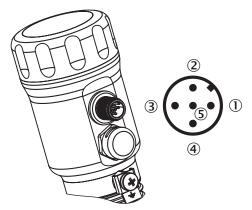


All dimensions in mm (inch)

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Connection type

5-pole M12 Connector



- (1) L^+ : Supply voltage, brown
- ② Q_A: Analog current-/voltage output, white
- (a) M: Ground, reference ground for current-/voltage output, blue (c) C/Q_1 : Switching output 1, PNP/IO-Link-communication, black
- ⑤ Q₂: Switching output 2, PNP/NPN, grey

Recommended accessories

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

	Brief description	Туре	Part no.
Hardware			
-	Weather protection cover for LFP Inox, material: 304	APR-WP- LFP001-0001	2069530
Spare parts			
NO NO	Spare coaxial cable for LFP Inox, remote amplifier, length 1 m	CBL-CX-001000-LFPI	2077795
T	Cover closed, material 1.4305	Cover closed	2067269
O	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 ½", including acceptance test certificate 3.1; Ra \leq 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 \leq 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 \leq 0.4 $\mu\text{m},$ Stainless steel 1.4404	BEF-HA- SWFL54-LFP2	2122489

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	Brief description	Туре	Part no.
Terminal and	alignment brackets		
	1 piece, Centering for bypass- and immersion tube installation with diameter 40 mm 100 mm, \mbox{PTFE}	BEF-FL-BYRD40-LFP1	2059612
Others			
•	 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
~	 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
~	 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
10	 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
	 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

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	Brief description	Туре	Part no.
	 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
6	 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
	 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

Recommended services

Additional services -> www.sick.com/LFP_Inox

	Туре	Part no.
Function Block Factory		
 Description: The Function Block Factory is an engineering tool for creating device and environment-specific function blocks that enable IO-Link sensors to be integrated into programmable logic controllers. The Function Block Factory supports common programmable logic controllers (PLCs) of various manufacturers such as Siemens, Beckhoff, Rockwell Automation B&R and more. More information on the FBF can be found https://fbf.cloud.sick.com Provision: Customers can obtain access to the Function Block Factory and the license via https://fbf.cloud.sick.com 	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



Online data sheet

