

# LMP 305

## Slimline Stainless Steel Probe with Stainless Steel Sensor



- ▶ diameter: 19 mm
- ▶ hydrostatic level measurement for example in 1" observation pipes (ground water measurement)
- ▶ nominal pressure ranges:  
from 0 ... 1 mH<sub>2</sub>O  
up to 0 ... 250 mH<sub>2</sub>O

The slimline stainless steel probe LMP 305 with its diameter of only 19 mm is especially suited for applications with restricted space, for example in 1" pipes for ground water monitoring. It can be used with water as well as liquids of low viscosity, compatible with stainless steel 1.4571 and the sealing material.

Basic element of the LMP 305 is a piezoresistive stainless steel sensor featuring excellent metrological properties as, for example, excellent long term stability. Thus it is possible to guarantee accuracy up to 0.125 % FSO BFSL.

Special pressure ranges can be delivered on request.

Preferred areas of use are:

- ▶ ground water level measurement
- ▶ depth or level measurement in wells and open waters
- ▶ level measurement under restricted space conditions

- ▶ small thermal effect
- ▶ excellent linearity
- ▶ good long term stability
- ▶ accuracy:  
0.175 % / 0.125% FSO BFSL  
(0.35 % / 0.25% FSO IEC 60770)
- ▶ customer specific versions:  
- special pressure ranges

Characteristics



**LMP 305**  
Stainless Steel Level Transmitter

**Input pressure range**

Nominal pressure gauge [bar]	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10	16	25
Level [mH <sub>2</sub> O]	1	1.6	2.5	4	6	10	16	25	40	60	100	160	250
Permissible overpressure [bar]	1	1	1	1	3	3	6	6	20	20	60	60	100

**Output signal / Supply**

Standard	2-wire: 4 ... 20 mA / V <sub>s</sub> = 12 ... 36 V <sub>DC</sub>
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**Performance**

Accuracy	standard: nominal pressure > 0.4 bar:	IEC 60770 <sup>1</sup>	BFSL
	nominal pressure ≤ 0.4 bar:	≤ ± 0.35 % FSO	≤ ± 0.175 % FSO
	option: nominal pressure > 0.4 bar:	≤ ± 0.50 % FSO	≤ ± 0.250 % FSO
		≤ ± 0.25 % FSO	≤ ± 0.125 % FSO
Permissible load	R <sub>max</sub> = [(V <sub>s</sub> - V <sub>s min</sub> ) / 0.02] Ω		
Influence effects	supply: 0.05 % FSO / 10 V		
	load: 0.05 % FSO / kΩ		
Long term stability	≤ ± 0.1 % FSO / year		
Response time	< 10 msec		

**Thermal errors (Offset and Span)**

Nominal pressure P <sub>N</sub> [bar]	≤ 0.1	≤ 0.25	≤ 0.4	≤ 1	> 1
Tolerance band [% FSO]	≤ ± 2	≤ ± 1.5	≤ ± 1	≤ ± 1	≤ ± 0.75
TC, average [% FSO / 10 K]	± 0.3	± 0.2	± 0.14	± 0.1	± 0.07
in compensated range [°C]	0 ... 50			0 ... 70	

**Electrical protection<sup>2</sup>**

Reverse polarity protection	no damage, but also no function
Electromagnetic compatibility	emission and immunity according to EN 61326

**Permissible temperatures**

Medium	-10 ... 70 °C
Storage	-25 ... 70 °C

**Electrical connection**

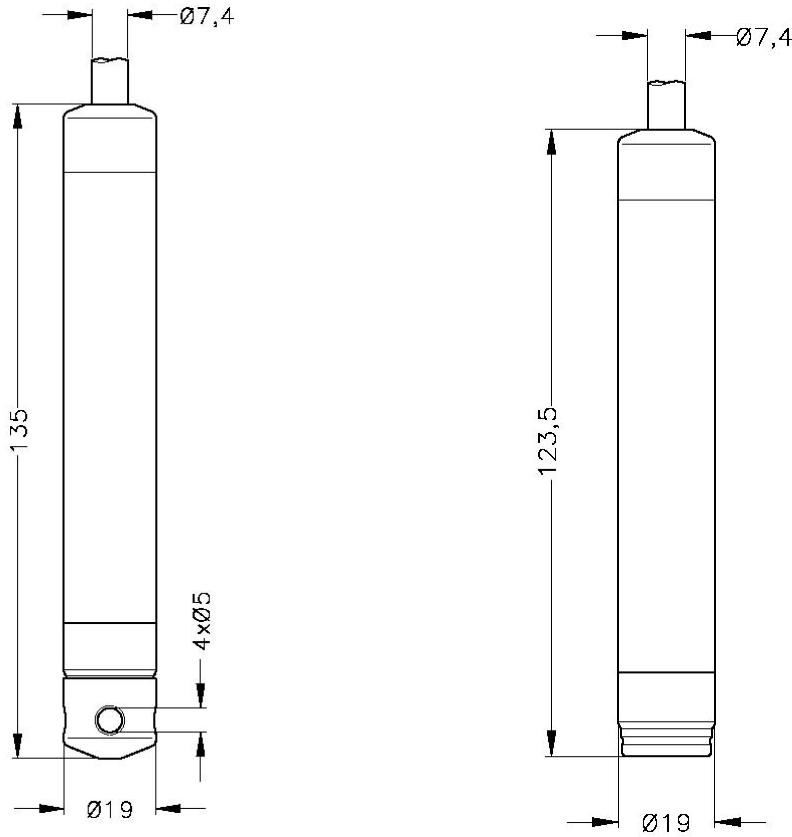
Cable with sheath material <sup>3</sup>	PVC grey PUR black FEP black
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<sup>1</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)

<sup>2</sup> additional external overvoltage protection unit in terminal box KL1 or KL2 with atmospheric pressure reference available on request (please ask for data sheet)

<sup>3</sup> cable with integrated air tube for atmospheric pressure reference

Dimensions (in mm)



Protective cap removable

Materials

Housing	stainless steel 1.4571 (316Ti)
Seals	FKM / EPDM
Diaphragm	stainless steel 1.4435 (316L)
Cable sheath	PVC / PUR / FEP / others on request

Miscellaneous

Connecting cables (by factory)	cable capacitance: signal line/shield also signal line/signal line: 160 pF/m cable inductance: signal line/shield also signal line/signal line: 1 µH/m
Current consumption	signal output current: max. 25 mA
Weight	approx. 100 g (without cable)
Ingress protection	IP 68

### Pin configuration

Electrical connection		cable colours (DIN 47100)
2-wire-system	Supply +	white
	Supply -	brown
	Ground	yellow / green (shield)

### Wiring diagram

2-wire-system (current)

