

# LMP 305



## Slimline Probe

Stainless Steel Sensor

accuracy according to IEC 60770:  
standard: 0.35 % FSO  
option: 0.25 % FSO

### Nominal pressure

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from 0 ... 1 mH<sub>2</sub>O up to 0 ... 250 mH<sub>2</sub>O

### Output signals

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2-wire: 4 ... 20 mA  
others on request

### Special characteristics

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- ▶ diameter 19 mm for cramped areas
- ▶ small thermal effect
- ▶ excellent long term stability
- ▶ excellent linearity

### Optional versions

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- ▶ different kinds of cable
- ▶ customer specific versions  
e.g. special pressure ranges

The slimline probe LMP 305 with silicon stainless steel sensor is designed for continuous level measurement in confined space conditions. Permissible media are clean or waste water and thin fluids.

A piezoresistive stainless steel sensor with low thermal error, an excellent linearity and a long term stability, is the basis of LMP 305.

### Preferred areas of use are

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#### Water

level measurement in confined space conditions



ground water monitoring

depth or level measurement in wells and open waters

drinking water system

level measurement in container



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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
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>
Performance	
Accuracy	standard: nominal pressure > 0.4 bar: ≤ ± 0.35 % FSO nominal pressure ≤ 0.4 bar: ≤ ± 0.50 % FSO option: nominal pressure > 0.4 bar: ≤ ± 0.25 % FSO
Permissible load	R <sub>max</sub> = [(V <sub>S</sub> - V <sub>S min</sub> ) / 0,02 A] Ω
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / kΩ
Long term stability	≤ ± 0.1 % FSO / year at reference conditions
Response time	< 10 msec

<sup>1</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)

Thermal effects (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	

Permissible temperatures	
Permissible temperatures	medium: -10 ... 70 °C storage: -25 ... 70 °C

Electrical protection <sup>2</sup>	
Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
Electromagnetic compatibility	emission and immunity according to EN 61326

<sup>2</sup> additional external overvoltage protection unit in terminal box KL 1 or KL 2 with atmospheric pressure reference available on request

Electrical connection	
Cable with sheath material <sup>3</sup>	PVC (-5 ... 70 °C) grey PUR (-10 ... 70 °C) black FEP <sup>4</sup> (-10 ... 70 °C) black others on request

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

<sup>4</sup> do not use freely suspended probes with an FEP cable if effects due to highly charging processes are expected

Materials (media wetted)	
Housing	stainless steel 1.4404 (316L)
Seals	FKM / EPDM
Diaphragm	stainless steel 1.4435 (316L)
Protection cap	POM
Cable sheath	PVC / PUR / FEP

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
CE-conformity	EMC Directive: 2004/108/EC



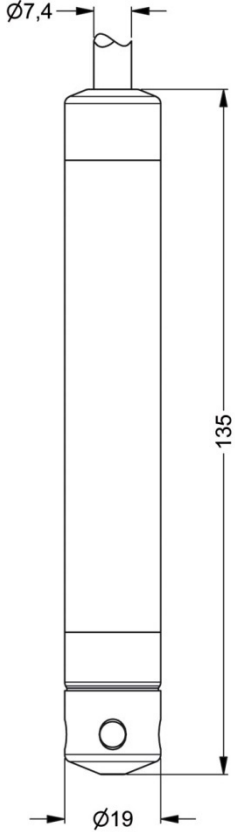
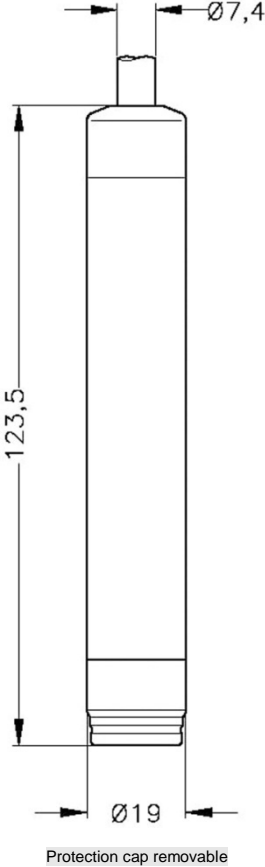
# LMP 305

Stainless Steel Probe

Technical Data

Pin configuration	
Electrical connection	cable colours (DIN 47100)
Supply +	wh (white)
Supply -	bn (brown)
Shield	gn/ye (green / yellow)

Dimensions (in mm)	
	

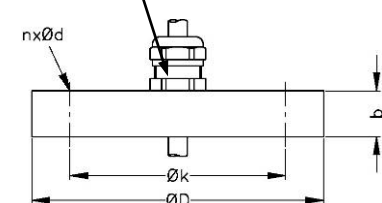
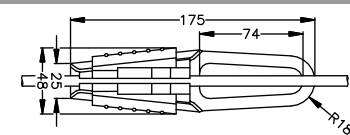

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# LMP 305

Stainless Steel Probe

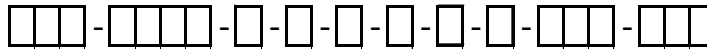
Accessories

Mounting flange with cable gland		
<b>Technical data</b>		cable gland M16x1.5 with seal insert (for cable- $\varnothing$ 4 ... 11 mm) 
Suitable for	all probes	
Flange material	stainless steel 1.4404 (316L)	
Material of cable gland	standard: brass, nickel plated on request: stainless steel 1.4305 (303); plastic	
Seal insert	material: TPE (ingress protection IP 68)	
Hole pattern	according to DIN 2507	
<b>Version</b>	<b>Size (in mm)</b>	<b>Weight</b>
DN25 / PN40	D = 115, k = 85, b = 18, n = 4, d = 14	1.4 kg
DN50 / PN40	D = 165, k = 125, b = 20, n = 4, d = 18	3.2 kg
DN80 / PN16	D = 200, k = 160, b = 20, n = 8, d = 18	4.8 kg
<b>Ordering type</b>		<b>Ordering code</b>
DN25 / PN40 with cable gland brass, nickel plated		ZMF2540
DN50 / PN40 with cable gland brass, nickel plated		ZMF5040
DN80 / PN16 with cable gland brass, nickel plated		ZMF8016
<b>Cable clamp</b>		
<b>Technical Data</b>		
Suitable for	all probes with cable $\varnothing$ 5.5 ... 10.5 mm	
Material	standard: steel, zinc plated optionally: stainless steel 1.4301 (304)	
Weight	approx. 160 g	
<b>Ordering type</b>		<b>Ordering code</b>
Terminal clamp, of steel, zinc plated		Z100528
Terminal clamp, of stainless steel 1.4301 (304)		Z100527
<b>Display program</b>		
<b>CIT 200</b> Process display with LED display		
<b>CIT 250</b> Process display with LED display and contacts		
<b>CIT 300</b> Process display with LED display, contacts and analogue output		
<b>CIT 350</b> Process display with LED display, bargraph, contacts and analogue output		
<b>CIT 400</b> Process display with LED display, contacts, analogue output and Ex-approval		
<b>CIT 600</b> Multichannel process display with graphics-capable LC display		
<b>CIT 650</b> Multichannel process display with graphics-capable LC display and datalogger		
<b>CIT 700</b> Multichannel process display with graphics-capable TFT monitor, touchscreen and contacts		
<b>PA 440</b> Field display with 4-digit LC display		
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## Ordering code LMP 305

LMP 305



Pressure		in bar		4	0	0															
		in mH <sub>2</sub> O		4	0	1															
<b>Input</b>	[mH <sub>2</sub> O]	[bar]																			
	1.0	0.10		1	0	0	0														
	1.6	0.16		1	6	0	0														
	2.5	0.25		2	5	0	0														
	4.0	0.40		4	0	0	0														
	6.0	0.60		6	0	0	0														
	10	1.0		1	0	0	1														
	16	1.6		1	6	0	1														
	25	2.5		2	5	0	1														
	40	4.0		4	0	0	1														
	60	6.0		6	0	0	1														
	100	10		1	0	0	2														
	160	16		1	6	0	2														
	250	25		2	5	0	2														
	customer			9	9	9	9														consult
<b>Housing</b>	Stainless steel 1.4404 (316L)			1																	
	customer			9																	consult
<b>Diaphragm</b>	Stainless steel 1.4435 (316L)			1																	
	customer			9																	consult
<b>Output</b>	4 ... 20 mA / 2-wire			1																	
	customer			9																	consult
<b>Seals</b>	FKM			1																	
	EPDM			3																	
	customer			9																	consult
<b>Accuracy</b>	standard for P <sub>N</sub> > 0.4 bar			0.35	%					3											
	standard for P <sub>N</sub> ≤ 0.4 bar			0.5	%					5											
	option for P <sub>N</sub> > 0.4 bar			0.25	%					2											
	customer			9						9											consult
<b>Electrical connection</b>	PVC-cable <sup>1</sup>									1											
	PUR-cable <sup>1</sup>									2											
	FEP-cable <sup>1</sup>									3											
	customer									9											consult
<b>Cable length</b>	in m										9	9	9								
<b>Special version</b>	standard										0	0	0								
	customer										9	9	9								consult

<sup>1</sup> cable with integrated air tube for atmospheric pressure reference

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