

LMP 305

Slimline Probe

Stainless Steel Sensor

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



Stainless Steel Probe

LMP 305

Nominal pressure

from 0 ... 1 mH₂O
up to 0 ... 250 mH₂O

Special characteristics

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

Optional versions

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

CE

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

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

LMP 305

Stainless Steel Probe

Technical Data

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 ₂ 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 _s = 12 ... 36 V _{DC}													
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	$R_{max} = [(V_s - V_{smin}) / 0.02] \Omega$													
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / kΩ													
Long term stability	≤ ± 0.1 % FSO / year													
Response time	< 10 msec													
¹ accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)														
Thermal effects (Offset and Span)														
Nominal pressure P _N [bar]	≤ 0.1		≤ 0.25		≤ 0.4		≤ 1		≤ 1		≤ 1		> 1	
Tolerance band [% FSO]	≤ ± 2		≤ ± 1.5		≤ ± 1		≤ ± 1		≤ ± 1		≤ ± 1		≤ ± 0.75	
TC, average [% FSO / 10 K]	± 0.3		± 0.2		± 0.14		± 0.1		± 0.1		± 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 ²														
Short-circuit protection	permanent													
Reverse polarity protection	no damage, but also no function													
Electromagnetic compatibility	emission and immunity according to EN 61326													
² 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 ³	PVC (-5 ... 70 °C)		PUR (-10 ... 70 °C)		FEP (-10 ... 70 °C)		others on request		grey		black		black	
³ cable with integrated air tube for atmospheric pressure reference														
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													
Wiring diagram														
2-wire-system (current)														

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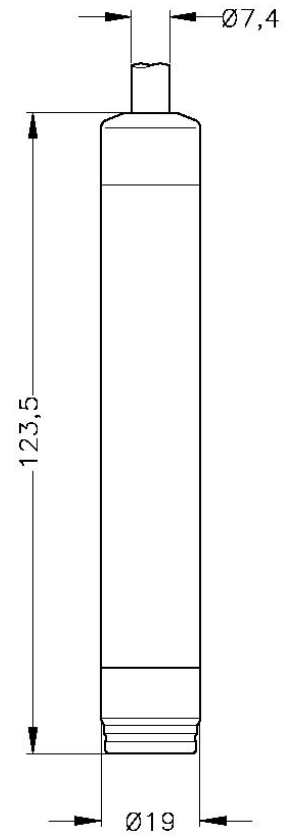
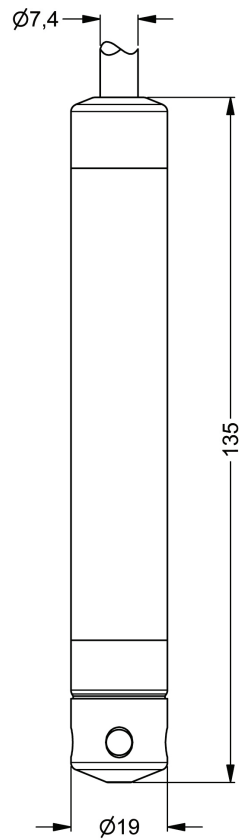
Stainless Steel Probe

Technical Data

Pin configuration

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

Dimensions (in mm)



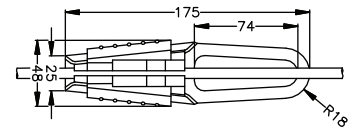
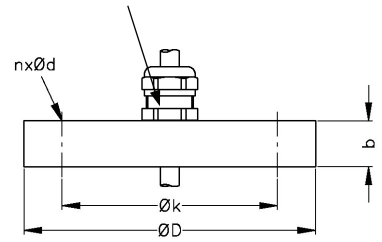
Protection cap removable

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Stainless Steel Probe

Accessories

Mounting flange with cable gland	
Technical data	
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
Version	Size (in mm)
DN25 / PN40	D = 115, k = 85, b = 18, n = 4, d = 14
DN50 / PN40	D = 165, k = 125, b = 20, n = 4, d = 18
DN80 / PN16	D = 200, k = 160, b = 20, n = 8, d = 18
Ordering type	Ordering code
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
Cable clamp	
Technical Data	
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
Ordering type	Ordering code
Terminal clamp, of steel, zinc plated	Z100528
Terminal clamp, of stainless steel 1.4301 (304)	Z100527
Display program	
CIT 200 Process display with LED display	
CIT 250 Process display with LED display and contacts	
CIT 300 Process display with LED display, contacts and analogue output	
CIT 350 Process display with LED display, bargraph, contacts and analogue output	
CIT 400 Process display with LED display, contacts, analogue output and Ex-approval	
CIT 600 Multichannel process display with graphics-capable LC display	
CIT 650 Multichannel process display with graphics-capable LC display and datalogger	
CIT 700 Multichannel process display with graphics-capable TFT monitor, touchscreen and contacts	
PA 440 Field display with 4-digit LC display	



Ordering code LMP 305

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Pressure																				
	in bar	4	0	0																
	in mH ₂ O	4	0	1																
Input																				
	[mH ₂ 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	
Housing																				
	Stainless steel 1.4404 (316L)						1													
	customer						9													consult
Diaphragm																				
	Stainless steel 1.4435 (316L)						1													
	customer						9													consult
Output																				
	4 ... 20 mA / 2-wire						1													
	customer						9													consult
Seals																				
	FKM						1													
	EPDM						3													
	customer						9													consult
Accuracy																				
	standard for P _N > 0.4 bar	0.35 %					3													
	standard for P _N ≤ 0.4 bar	0.5 %					5													
	option for P _N > 0.4 bar	0.25 %					2													
	customer						9													consult
Electrical connection																				
	PVC-cable ¹						1													
	PUR-cable ¹						2													
	FEP-cable ¹						3													
	customer						9													consult
Cable length																				
	in m						9	9	9											
Special version																				
	standard									0	0	0								
	customer									9	9	9								consult

¹ cable with integrated air tube for atmospheric pressure reference

: contains product specification; properties are not guaranteed. Detailed information about options are defined in the datasheet. Subject to change without notice.

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