

LMP 305

Slimline Probe

Stainless Steel Sensor

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



Nominal pressure

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

Output signals

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

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

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 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



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	$R_{\max} = [(V_S - V_{S \min}) / 0.02 \text{ A}] \Omega$
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

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
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 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

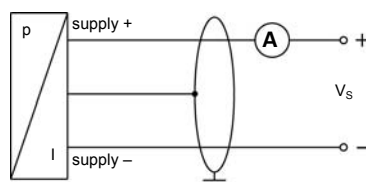
Electrical connection	
Cable with sheath material ³	PVC (-5 ... 70 °C) grey PUR (-10 ... 70 °C) black FEP ⁴ (-10 ... 70 °C) black others on request

³ cable with integrated air tube for atmospheric pressure reference

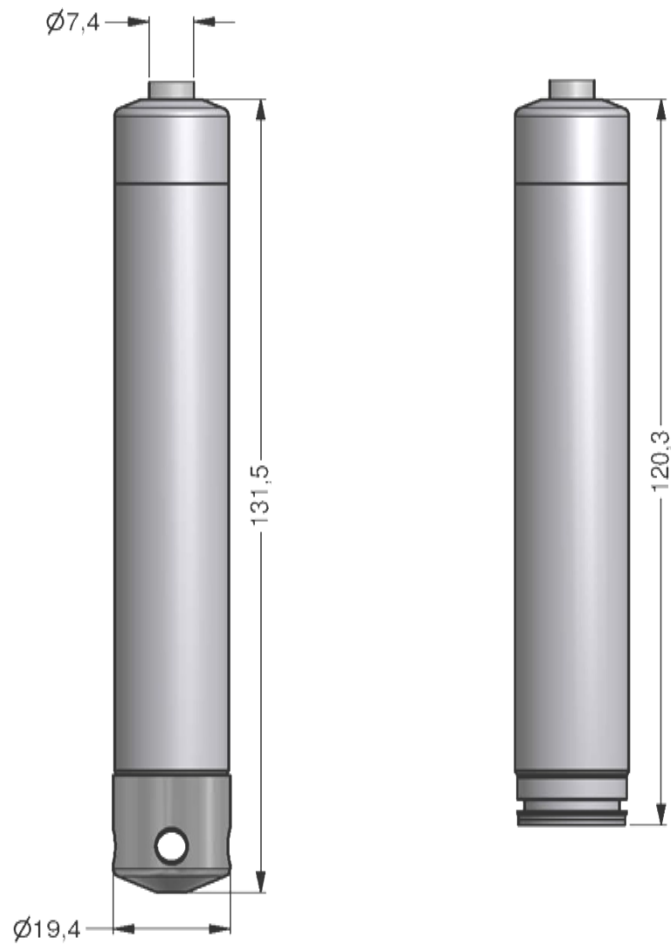
⁴ do not use freely suspended probes with an FEP cable if effects due to highly charging processes are expected

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: 2014/30/EU

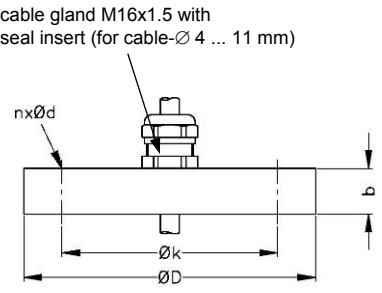
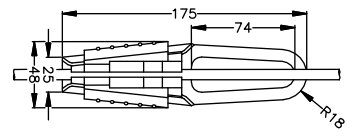
Wiring diagram	
2-wire-system (current)	
	

Pin configuration	
Electrical connection	cable colours (IEC 60757)
Supply +	wh (white)
Supply –	bn (brown)
Shield	gnye (green-yellow)
Dimensions (in mm)	



Protection cap removable

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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)	Weight
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
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		
For further information please contact our sales department or visit our homepage: http://www.bdsensors.com		  

Ordering code LMP 305

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
	1.6	0.16	1	6	0
	2.5	0.25	2	5	0
	4.0	0.40	4	0	0
	6.0	0.60	6	0	0
	10	1.0	1	0	0
	16	1.6	1	6	0
	25	2.5	2	5	0
	40	4.0	4	0	0
	60	6.0	6	0	0
	100	10	1	0	0
	160	16	1	6	0
	250	25	2	5	0
	customer		9	9	9
Housing					
	Stainless steel 1.4404 (316L)		1		
	customer		9		
Diaphragm					
	Stainless steel 1.4435 (316L)		1		
	customer		9		
Output					
	4 ... 20 mA / 2-wire		1		
	customer		9		
Seals					
	FKM		1		
	EPDM		3		
	customer		9		
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		
Electrical connection					
	PVC-cable ¹		1		
	PUR-cable ¹		2		
	FEP-cable ¹		3		
	customer		9		
Cable length					
	in m		9	9	9
Special version					
	standard		0	0	0
	customer		9	9	9

¹ cable with integrated air tube for atmospheric pressure reference