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 mH_2O up to 0 ... 250 mH_2O

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 continous level measurement in confined space conditions. Permissible media are clean or lightly polluted water and thin fluids.

A piezoresistiv 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

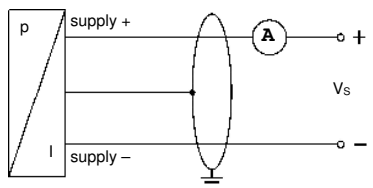
Water
level measurement in confined space conditions
ground water monitoring
depth or level measurement in wells and open waters
drinking water system
level measurement in container

Quote Me Now

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_2O]	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

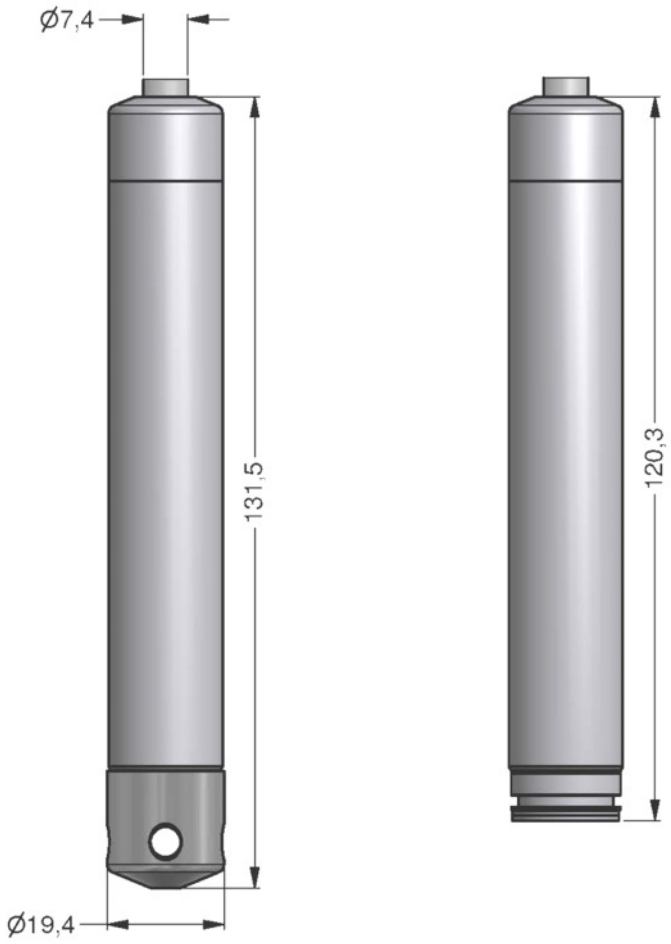
Output signal / Supply					
Standard	2-wire: 4 ... 20 mA / V_S = 12 ... 36 V_{DC}				
Performance					
Accuracy	standard: nominal pressure > 0.4 bar: ≤ ± 0.35 % FSO nominal pressure ≤ 0.4 bar: ≤ ± 0.50 % FSO option: nominal pressure > 0.4 bar: ≤ ± 0.25 % FSO				
Permissible load	$R_{max} = [(V_S - V_{S\,min}) / 0{,}02\ A]\ \Omega$				
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 + Supply –	wh (white) bn (brown)
Shield	gnye (green-yellow)

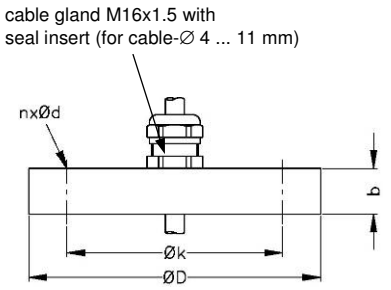
Dimensions (in mm)



Protection cap removable

Mounting flange with cable gland

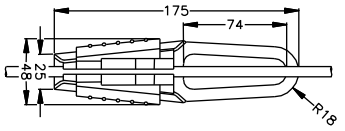
Technical data		
Suitable for	all probes	
Flange material	stainless steel 1.4404 (316L)	
Material of cable gland	standard: brass, nickel plated on request: stainless steel 1.4305 (303); plastic	
Seal insert	material: TPE (ingress protection IP 68)	
Hole pattern	according to DIN 2507	
Version	**Size (in 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 ∅ 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 ☐☐☐-☐☐☐☐-☐-☐-☐-☐-☐-☐-☐☐☐-☐☐☐

			Code	
Pressure				
		in bar	4 0 0	
		in mH_2O	4 0 1	
Input	$[mH_2O]$	[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 $P_N \leq 0.4$ 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