



# **LMP 308**

## Separable **Stainless Steel Probe**

Stainless Steel Sensor

accuracy according to IEC 60770: standard: 0.35 % FSO option: 0.25 % FSO / 0.1 % FSO

#### **Nominal pressure**

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

### **Output signals**

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

#### Special characteristics

- diameter 35 mm
- cable and sensor section separable
- excellent accuracy
- excellent long term stability

#### **Optional versions**

- IS-version zone 0
- SIL 2 (Safety Integrity Level)
- cable protection via corrugated pipe
- mounting accessories as cable gland and terminal clamp of stainless steel
- different kinds of cables
- different kinds of seal materials

The separable stainless steel probe LMP 308 is designed for the continually level measurement of water and thin fluids.

In order to facilitate stock-keeping and maintenance the transmitter head is plugged to the cable assembly with a connector and can be changed easily.

#### Preferred areas of use are

#### Water / filtrated sewage



ground water level measurement level measurement in wells and open waters

rain spillway basin level measurement in container water treatment plants water recycling



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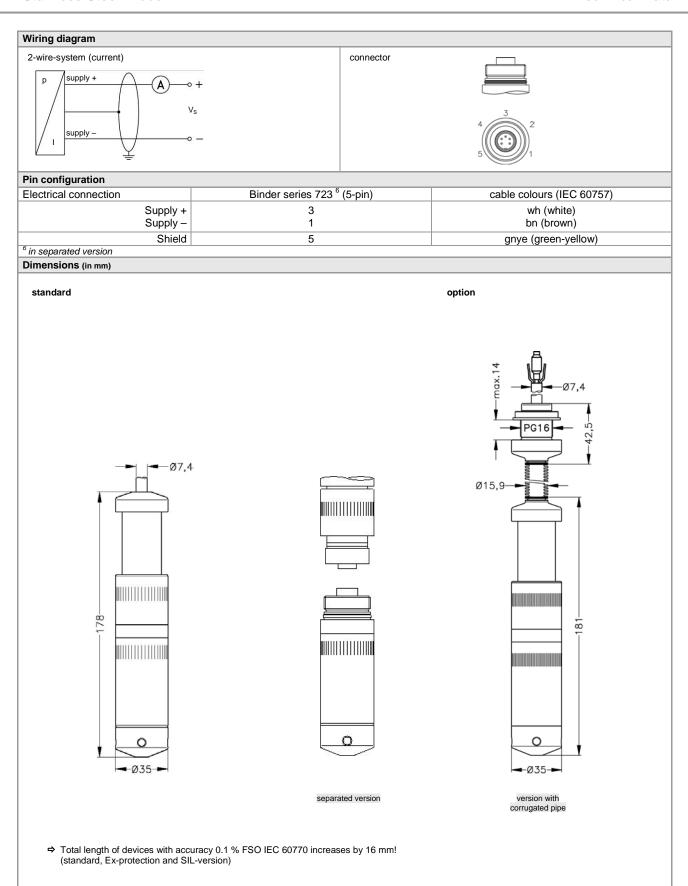




Stainless Steel Probe

Input pressure range														
Nominal pressure gauge	[bar]	0.10	0.16	0.25	0.40	0.60	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]	0.5	1	1	2	5	5	10	10	20	40	40	80	80
Burst pressure	[bar]	1.5	1.5	1.5	3	7.5	7.5	15	15	25	50	50	120	120

Output signal / Supply						
Standard	2-wire: 4 20 mA / V <sub>S</sub> = 8 32 V <sub>DC</sub>	SIL-version: $V_S = 14 \dots 28 V_{DC}$				
Option IS-protection	2-wire: 4 20 mA / V <sub>S</sub> = 10 28 V <sub>DC</sub>	SIL-version: V <sub>S</sub> = 14 28 V <sub>DC</sub>				
Performance						
Accuracy <sup>1</sup>	standard: nominal pressure < 0.4 bar:	≤ ± 0.5 % FSO				
,	nominal pressure ≥ 0.4 bar:	≤ ± 0.35 % FSO				
	option 1: nominal pressure ≥ 0.4 bar:	≤ ± 0.25 % FSO				
	option 2: for all nominal pressures:	≤ ± 0.1 % FSO				
Permissible load	$R_{\text{max}} = [(V_S - V_{S \text{ min}}) / 0.02 \text{ A}] \Omega$					
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					
<sup>1</sup> accuracy according to IEC 60770 – lim	nit point adjustment (non-linearity, hysteresis, repeatab	oility)				
Thermal effects (Offset and Span)						
Nominal pressure P <sub>N</sub> [bar]		≥ 0.40				
Tolerance band [% FSO]		≤ ± 0.75				
in compensated range [°C]	]	0 70				
Permissible temperatures						
Permissible temperatures	medium: -20 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 protect	ion 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 (-20 70 °C) black					
	FEP⁴ (-20 70 °C) black					
2	others on request					
<sup>3</sup> cable with integrated air tube for atmos	others on request spheric pressure reference					
<sup>4</sup> do not use freely suspended probes wi	others on request	esses are expected				
<sup>4</sup> do not use freely suspended probes with Materials (media wetted)	others on request spheric pressure reference ith an FEP cable if effects due to highly charging proce	esses are expected				
<sup>4</sup> do not use freely suspended probes wi <b>Materials (media wetted)</b> Housing	others on request spheric pressure reference ith an FEP cable if effects due to highly charging process stainless steel 1.4404 (316L)	esses are expected				
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<sup>4</sup> do not use freely suspended probes wi <b>Materials (media wetted)</b> Housing Seals	others on request spheric pressure reference ith an FEP cable if effects due to highly charging process stainless steel 1.4404 (316L)  FKM  EPDM others on request	esses are expected				
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<sup>4</sup> do not use freely suspended probes wi Materials (media wetted) Housing Seals	others on request spheric pressure reference ith an FEP cable if effects due to highly charging proces stainless steel 1.4404 (316L)  FKM EPDM others on request stainless steel 1.4435 (316L)  POM  IBEXU 10 ATEX 1068 X / IECEX IBE 12.0 zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T 85°C Da  U <sub>i</sub> = 28 V, I <sub>i</sub> = 93 mA, P <sub>i</sub> = 660 mW, C <sub>i</sub> ≈ 0nF,	<b>027X</b> L <sub>i</sub> ≈ 0μH,				
4 do not use freely suspended probes wi Materials (media wetted)  Housing  Seals  Diaphragm  Protection cap  Explosion protection  Approvals  DX19-LMP 308  Safety technical maximum values	others on request spheric pressure reference ith an FEP cable if effects due to highly charging proces stainless steel 1.4404 (316L)  FKM EPDM others on request stainless steel 1.4435 (316L)  POM  IBEXU 10 ATEX 1068 X / IECEX IBE 12.0 zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T 85°C Da  U₁ = 28 V, I₁ = 93 mA, P₁ = 660 mW, C₁ ≈ 0nF, the supply connections have an inner capaci	<b>027X</b> L <sub>i</sub> ≈ 0μH, ty of max. 27 nF to the housing				
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## Stainless Steel Probe

Mounting flange w	ith cable gland					
Technical data						
Suitable for	all probes	cable gland M16x1.5 with seal insert (for cable-Ø 4 11 mm)				
Flange material	stainless steel 1.4404 (316L)					
Material of	standard: brass, nickel plated	\				
cable gland	on request: stainless steel 1.4305 (303	nxØd \				
Seal insert	material: TPE (ingress protection IP 68)	\ <b>\</b>				
Hole pattern	according to DIN 2507					
Version	Size (in mm)	Weight	٩			
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	Øk			
DN80 / PN16	D = 200, k = 160, b = 20, n = 8, d= 18	4.8 kg	ØD-			
Ordering type		Ordering code				
DN25 / PN40 with cab	le gland brass, nickel plated	ZMF2540				
DN50 / PN40 with cab	le gland brass, nickel plated	ZMF5040				
DN80 / PN16 with cab	le gland brass, nickel plated	ZMF8016				

#### Terminal clamp

Technical data		
Suitable for	all probes with cable Ø 5.5 10.5 mm	
Material	standard: steel, zinc plated optionally: stainless steel 1.4301 (304)	
Weight	approx. 160 g	
Ordering type		Ordering code

vveignt approx. 160 g		I	17/3
Ordering type	Ordering code		
Terminal clamp, steel, zinc plated	Z100528		
Terminal clamp, stainless steel 1.4301 (30	4) 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



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#### Ordering code LMP 308 **LMP 308** Pressure 4 4 0 4 4 1 in bar in mH<sub>2</sub>O Input 0 0 0 6 0 0 5 0 0 0 0 0 0 0 0 1.0 0.10 1 1.6 0.16 2.5 0.25 2 4.0 0.40 6.0 0.60 6 10 1.0 0 0 16 1.6 6 0 25 2.5 2 5 0 40 4.0 4 0 0 60 6.0 6 0 0 100 10 0 0 2 6 0 2 5 0 2 9 9 9 160 16 25 2 5 customer consult Stainless steel 1.4404 (316L) 9 customer consult Diaphragm Stainless steel 1.4435 (316L) 9 customer consult Output 4 ... 20 mA / 2-wire 1 Intrinsic safety 4 ... 20 mA / 2-wire SIL2 4 ... 20 mA / 2-wire F 1S SIL2 with Intrinsic safety 4 ... 20 mA / 2-wire ES 9 customer consult FKM 1 **EPDM** customer 9 consult Electrical connection PVC-cable 1 PUR-cable 2 FEP-cable <sup>1</sup> 3 customer consult Accuracy standard for $P_N \ge 0.4$ bar standard for $P_N < 0.4$ bar 0.35 % 3 0.5 % 5 onsult consult option 1 for $P_N \ge 0.4$ bar 0.25 % 2 0.1 % 2 option 2 customer 9 consult Cable length 9 9 9 standard 0 0 0 prepared for mounting 3 0 6 1 consult with stainless steel pipe cable protection with stainless steel corrugated pipe 0 3 9 9 9 consult

with pipe length in m

consult

time of publishing. We reserve the right to make modifications to the specifications and mate

9 9 9

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

<sup>&</sup>lt;sup>2</sup> not in combination with SIL

<sup>3</sup> stainless steel pipe is not part of the supply