

LMP 308



Detachable 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 mH₂O up to 0 ... 250 mH₂O

Output signals

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

Special characteristics

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

Optional versions

- ▶ IS-version Ex ia= intrinsically safety for gas and dust
- ▶ SIL 2 (Safety Integrity Level)
- ▶ customer specific version
- ▶ mounting accessories as cable gland and terminal clamp of stainless steel
- ▶ different kinds of cables
- ▶ different kinds of seal materials
- ▶ mounting accessories e.g. mounting flange and terminal clamp in stainless steel

The detachable 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



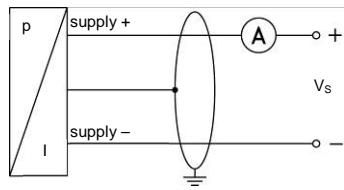
- ground water level measurement
- level measurement in wells and open waters
- rain spillway basin
- level measurement in container
- water treatment plants
- water recycling



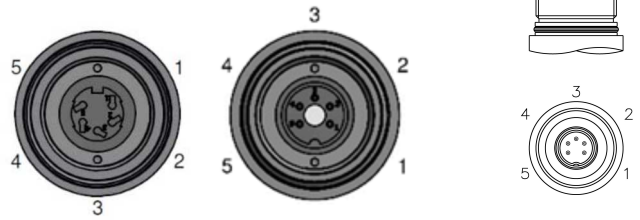
Input pressure range															
Nominal pressure gauge	[bar]	0.10	0.16	0.25	0.40	0.60	1	1.6	2.5	4	6	10	16	25	
Level	[mH ₂ O]	1	1.6	2.5	4	6	10	16	25	40	60	100	160	250	
Overpressure	[bar]	0.5	1	1	2	5	5	10	10	20	40	40	80	80	
Burst pressure	[bar]	1.5	1.5	1.5	3	7.5	7.5	15	15	25	50	50	120	120	
Output signal / Supply															
Standard	2-wire:	4 ... 20 mA / V _S = 8 ... 32 V _{DC}						SIL-version: V _S = 14 ... 28 V _{DC}							
Option IS-protection	2-wire:	4 ... 20 mA / V _S = 10 ... 28 V _{DC}						SIL-version: V _S = 14 ... 28 V _{DC}							
Performance															
Accuracy ¹	standard:	nominal pressure < 0.4 bar:			≤ ± 0.5 % FSO										
	option 1:	nominal pressure ≥ 0.4 bar:			≤ ± 0.35 % FSO										
	option 2:	for all nominal pressures:			≤ ± 0.25 % FSO										
Permissible load	R _{max} = [(V _S - V _{S min}) / 0.02 A] Ω														
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]	< 0.40						≥ 0.40							
Tolerance band	[% FSO]	≤ ± 1						≤ ± 0.75							
in compensated range	[°C]	0 ... 70													
Permissible temperatures															
Permissible temperatures	Medium/ electronics/ environment/ storage: -20 ... 80 °C *														
<i>*If the cable is intended for use in a smaller temperature range, the use of the probe is limited by this range.</i>															
Electrical protection ²															
Short-circuit protection	permanent														
Reverse polarity protection	no damage, but also no function														
Lightning protection	integrated														
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		(-25 ... 70 °C in fixed condition)						Ø 7,4 mm					
	PUR	(-25 ... 80 °C) black								Ø 7,4 mm					
	FEP ⁴	(-25 ... 75 °C) black								Ø 7,4 mm					
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 others on request														
Diaphragm	stainless steel 1.4435 (316L)														
Protection cap	POM-C														
Cable sheath	PVC, PUR, FEP, others on request														
Explosion protection															
Approvals DX9-LMP 308	IBExU10ATEX1122 X zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T135°C Da														
Safety technical maximum values	U _i = 28 V, I _i = 93 mA, P _i = 660 mW, C _i ≈ 0nF, L _i ≈ 0μH, the supply connections have an inner capacity of max. 27 nF to the housing														
Ambient temperature range	in zone 0: -20 ... 60 °C with p _{atm} 0.8 bar up to 1.1 bar in zone 1 or higher: -20 ... 70 °C														
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														
Miscellaneous															
Option SIL ⁵ 2 application	according to IEC 61508 / IEC 61511														
Current consumption	signal output current: max. 25 mA														
Weight	approx. 250 g (without cable)														
Ingress protection	IP 68														
CE-conformity	EMC Directive: 2014/30/EU														
ATEX Directive	2014/34/EU														
⁵ not in combination with the accuracy 0.1%															

Wiring diagram

2-wire-system (current)



connector



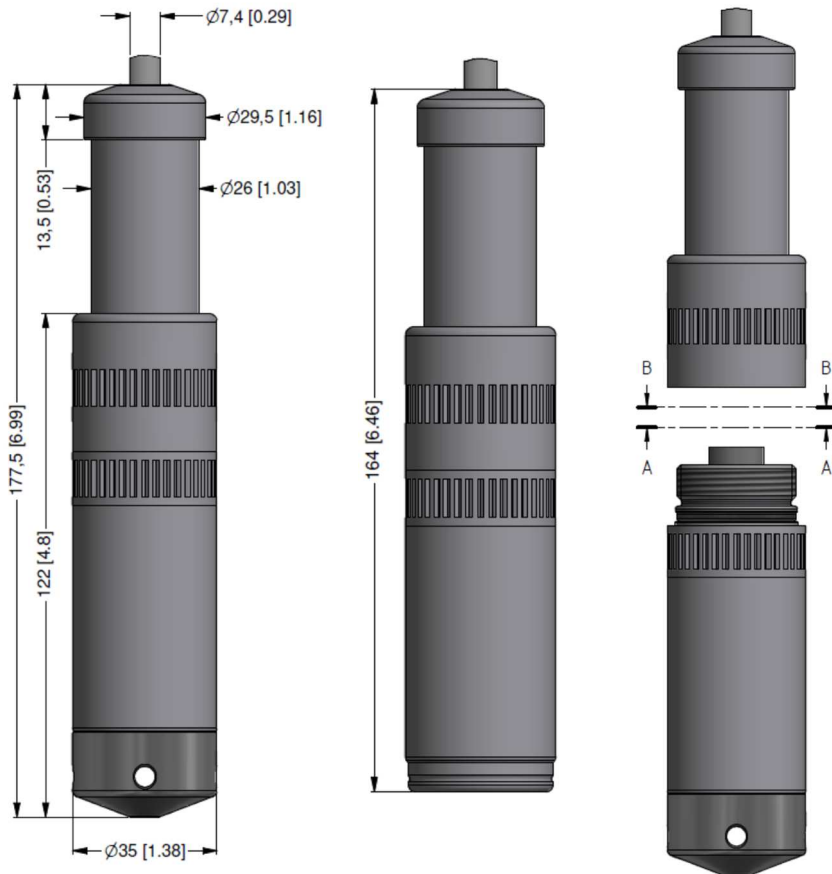
Pin configuration

Electrical connection	Binder series 723 ⁶ (5-pin)	cable colours (DIN 47100)
Supply +	3	wh (white)
Supply -	1	bn (brown)
Shield	5	gn/ye (green / yellow)

⁶ in detached version

Dimensions (mm / in)

standard



protection cap removable

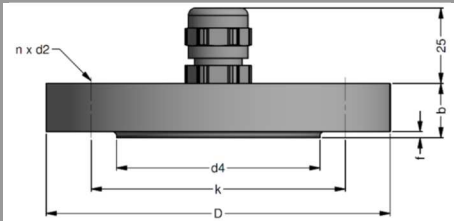
detached version

⇒ Total length of devices with accuracy 0.1 % FSO IEC 60770 increases by 16 mm!
(standard, Ex-protection and SIL-version)

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 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

Terminal 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 type	Ordering code
Terminal clamp, steel, zinc plated	1003440
Terminal clamp, stainless steel 1.4301 (304)	1000278

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>



0,-...without additional charge

1 - maximum length of PVC cable – 25 m, PUR, FEP, TPE – 40 m

On request...in accordance with the producer

Surcharges for calibration are not subject to any discounts. Subject to change.

This document contains the specification for ordering the product; detailed technical parameters of the product and its possible variants are given in the data sheet.

BD SENSORS reserves the right to change sensor specifications without further notice.



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