BD SENSORS®
pressure measurement

LMP 808

Detachable Plastic Probe

Stainless Steel Sensor

accuracy according to EN IEC 62828-2:
standard: 0.35 % span
option: 0.25 %

Nominal pressure

from 0 ... 1 mH_2O up to 0 ... 100 mH_2O

Output signals

2-wire: 4 ... 20 mA
3-wire: 0 ... 20 mA / 0 ... 10 V
others on request

Special characteristics

- diameter 35 mm
- cable assembly and probe head detachable
- excellent linearity
- small thermal effect

Optional versions

- SIL 2 (Safety Integrity Level) according to IEC 61508 / 61511
- mounting accessories e.g. mounting flange and terminal clamp of stainless steel
- different kinds of cables and elastomers
- customer specific versions e. g. special pressure ranges

The detachable plastic probe is designed for level measurement of water, waste water as well as fuels and oils. Basic element is a piezoresistive stainless steel sensor.

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
storm water systems
drinking water system
water treatment plants

Fuel / Oil
fuel storage
tank farm
biogas plants
process water recycling

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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
Level [mH_2O]	1	1.6	2.5	4	6	10	16	25	40	60	100
Overpressure [bar]	0.5	1	1	2	5	5	10	10	20	40	40
Burst pressure ≥ [bar]	1.5	1.5	1.5	3	7.5	7.5	15	15	25	50	50
max. ambient pressure (housing)	20 bar										

Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / V_S = 8 ... 32 V_{DC} SIL-version: V_S = 14 … 28 V_{DC}
Options 3-wire	3-wire: 0 ... 20 mA / V_S = 14 ... 30 V_{DC} 0 ... 10 V / V_S = 14 ... 30 V_{DC}
Performance	
Accuracy	standard: nominal pressure < 0.4 bar: ≤ ± 0.5 % span nominal pressure ≥ 0.4 bar: ≤ ± 0.35 % span option 1: nominal pressure ≥ 0.4 bar: ≤ ± 0.25 % span
Permissible load	current 2-wire: $R_{max} = [(V_S – V_S min) / 0.02 A] \Omega$ current 3-wire: R_{max} = 500 Ω voltage 3-wire: R_{min} = 10 kΩ
Influence effects	supply: 0.05 % span / 10 V load: 0.05 % span / kΩ
Long term stability	≤ ± 0.1 % span / year
Response time	< 10 msec
[1] accuracy according to EN IEC 62828-2– limit point adjustment (non-linearity, hysteresis, repeatability)	

Thermal effects (Offset and Span)		
Nominal pressure P_N [bar]	< 0.40	≥ 0.40
Tolerance band [% span]	≤ ± 1	≤ ± 0.75
in compensated range [°C]	0 ... 50	

Permissible temperatures	
Permissible temperatures	Medium/ electronics/ environment/ storage: -20 … 80 °C *
**If the cable is intended for use in a smaller temperature range, the use of the probe is limited by this range.*	

Electrical protection [2]	
Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
Lightning protection	2-wire: integrated 3-wire: without
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	

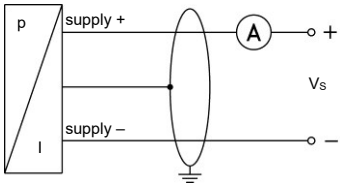
Electrical connection	
Cable with sheath material [3]	PVC (-5 … 70 °C) grey (-25 … 70 °C in fixed condition) Ø 7,4 mm PUR (-25 … 80 °C) black (with drinking water certificate) Ø 7,4 mm FEP [4] (-25 … 75 °C) black Ø 7,4 mm
Cable capacitance	signal line/shield also signal line/signal line: 160 pF/m
Cable inductance	signal line/shield also signal line/signal line: 1 µH/m
Bending radius	static installation: 10-fold cable diameter, dynamic application: 20-fold cable diameter
[3] shielded 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	PP-HT
Seals	FKM EPDM
Diaphragm	stainless steel 1.4435 (316L)
Cable sheath	PVC, PUR, FEP, others on request
Protection cap	POM-C

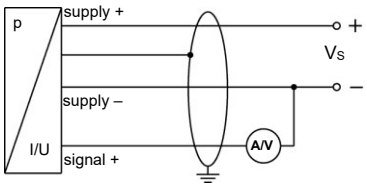
Miscellaneous	
Option SIL[5] 2 application	according to IEC 61508 / IEC 61511
Option cable protection (on request)	prepared for mounting with PP-HT pipe Ø 25 mm; available as compact product (standard: pipe with a total length up to 2 m possible)
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA
Weight	approx. 400 g (without cable)
Ingress protection	IP 68
CE-conformity	EMC Directive: 2014/30/EU
[5] only for 4...20mA / 2-wire	

Wiring diagrams

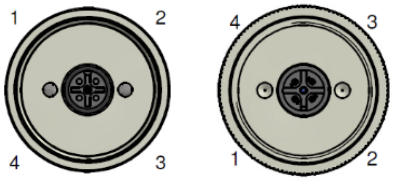
2-wire-system (current)



3-wire-system (current / voltage)



M12x1 (4-pin)



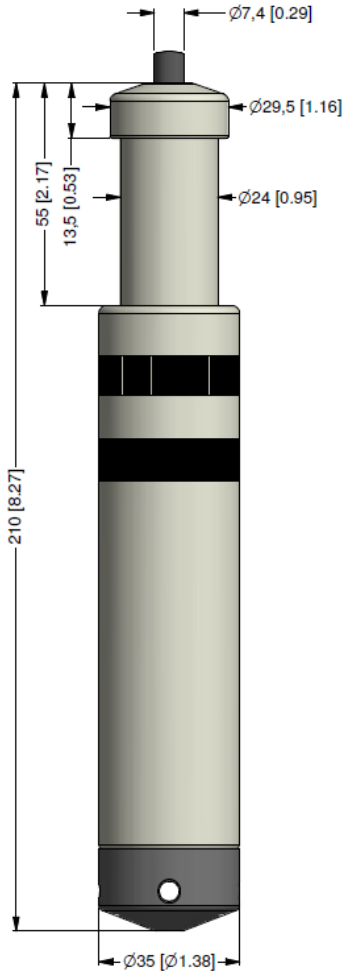
Pin configuration

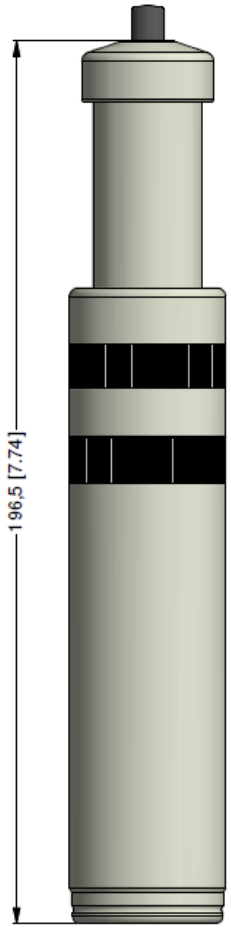
Electrical connection	Binder serie 723 [6] (4-pin)	cable colours (DIN 47100)
Supply + Supply – Signal + (only 3-wire)	3 4 1	wh (white) bn (brown) gn (green)
Shield	2	gn/ye (green / yellow)

[6] in detached version

Dimensions (in mm)

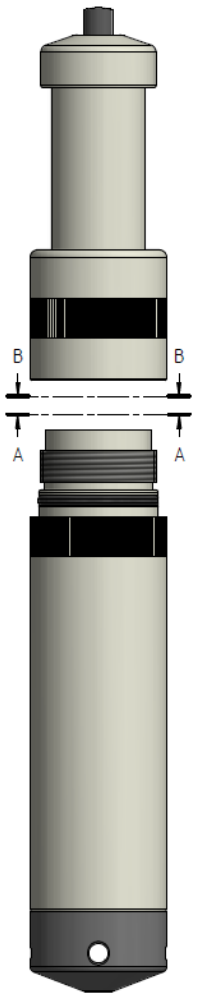
standard





protection cap removable

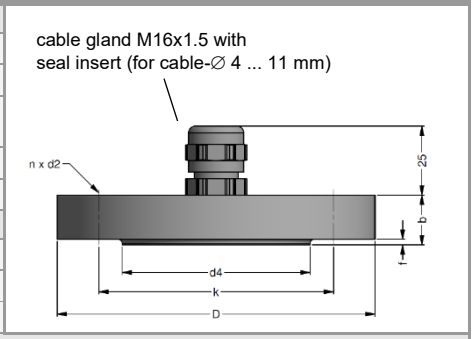
option



probe head detached and cable assembly

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	5000275
DN50 / PN40 with cable gland brass, nickel plated	5000278
DN80 / PN16 with cable gland brass, nickel plated	5000279

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	1003440
Terminal clamp, of 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

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BD SENSORS® pressure measurement

Ordering code LMP 808

23.08.2024

LMP 808 | | | | - | | | | | - | | - | | - | | - | | - | | | | - | | | |

Pressure																								
in bar			4	1	0																			
in m H_2O			4	1	1																			
Input	**[mH_2O]**	**[bar]**																						
	0 … 1	0 … 0,1				1	0	0	0															
	0 … 1,6	0 … 0,16				1	6	0	0															
	0 … 2,5	0 … 0,25				2	5	0	0															
	0 … 4	0 … 0,4				4	0	0	0															
	0 … 6	0 … 0,6				6	0	0	0															
	0 … 10	0 … 1				1	0	0	1															
	0 … 16	0 … 1,6				1	6	0	1															
	0 … 25	0 … 2,5				2	5	0	1															
	0 … 40	0 … 4				4	0	0	1															
	0 … 60	0 … 6				6	0	0	1															
	0 … 100	0 … 10				1	0	0	2															
Customer						9	9	9	9															
Housing material																								
PP-HT										R														
Diaphragm material																								
Stainless steel 1.4435 (316 L)											1													
Output																								
4 … 20 mA / 2-wire												1												
0 … 20 mA / 3-wire												2												
0 … 10 V / 3-wire [3]												3												
0 … 5 V / 3-wire [3]												4												
4 … 20 mA / 3-wire												7												
SIL2, 4 … 20 mA / 2-wire												1S												
Customer												9												
Seals																								
Viton (FKM)													1											
EPDM													3											
Customer													9											
Electrical connection																								
Without cable part														0										
PVC - cable (grey, Ø 7,4 mm, price for 1 m)[1]														1										
PUR - cable (black, Ø 7,4 mm, price for 1 m)[1]														2										
FEP - cable with PTFE sheath (black, Ø 7,4 mm, price for 1 m)[1]														3										
Customer														9										
Accuracy																								
0,5 % (P_N ≤ 0,4 bar)														5										
0,35 % (P_N > 0,4 bar)														3										
0,25 % (P_N > 0,4 bar)														2										
0,5 % including Calibration Certificate (P_N ≤ 0,4 bar)														T										
0,35 % including Calibration Certificate (P_N > 0,4 bar)														S										
Measured values table for accuracy 0,35 %														M										
Customer														9										
Cable length																								
in m																9	9	9						
Special version																								
Standard																			0	0	0			
Prepared for mounting with protecting pipe Ø 20 mm [2]																			1	0	6			
Customer																			9	9	9			

Accessories for submersible transmitter

Cabel part + price for cabel in m	5000695
Terminal clamp - zinc plated	1003440
Terminal clamp - stainless steel 1.4301	1000278
Mounting screw PG16 - plastic	5002200

0,-…without additional charge 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.

1 cable with integrated ventilation tube for atmospheric pressure reference
2 pipe is not part of the supply
3 maximum length of PVC cable – 25 m, PUR, FEP, TPE – 40 m