BD SENSORS®
pressure measurement

LMK 307

Stainless Steel Probe

Ceramic Sensor

accuracy according to EN IEC 62828-2:
0.5 % span

Nominal pressure

from 0 ... 4 mH_2O up to 0 ... 250 mH_2O

Output signals

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

Special characteristics

- diameter 27 mm
- good linearity
- good long term stability
- easy handling

Optional versions

- IS-version
  Ex ia = intrinsically safe for gas
  and dust
- SIL 2 (Safety Integrity Level)
  according to IEC 61508 / IEC 61511
- different kinds of cables and elastomeres
- customer specific versions
  e. g. special pressure ranges

The level transmitter LMK 307 is designed for continuous level measurement in water or waste water applications. Basic element is a flush mounted ceramic sensor.

Suitable for all fluids which are compatible with media wetted materials. Different cable and elastomer matierals can be offered according to the customer-specific operating conditions.

Preferred areas of use are

Water
drinking water system
ground water monitoring
storm water systems

Sewage
waste water treatment
water recycling
dumpsite

Fuel / Oil
fuel storage
tank farm
biogas plants

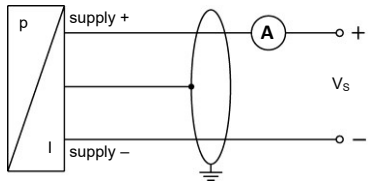
BD SENSORS s.r.o.
Hradišťská 817
CZ – 687 08 Buchlovice
Tel.: +420 572 411 011
www.bdsensors.cz
info@bdsensors.cz

Input pressure range										
Nominal pressure gauge [bar]	0.4	0.6	1	1.6	2.5	4	6	10	16	25
Level [mH_2O]	4	6	10	16	25	40	60	100	160	250
Overpressure [bar]	2	2	2	4	4	10	10	20	40	40
Burst pressure [bar]	4	4	4	5	5	12	12	25	50	50
max. ambient pressure (housing)	40 bar									

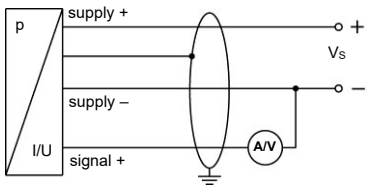
Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / V_S = 8 ... 32 V_{DC} SIL-version: V_S = 14 … 28 V_{DC}
Option IS-protection	2-wire: 4 ... 20 mA / V_S = 10 ... 28 V_{DC} SIL-version: V_S = 14 … 28 V_{DC}
Options 3-wire	3-wire: 0 ... 20 mA / V_S = 14 ... 30 V_{DC} 0 ... 10 V / V_S = 14 ... 30 V_{DC}
Performance	
Accuracy	≤ ± 0.5 % 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 k Ω
Influence effects	supply: 0.05 % span / 10 V load: 0.05 % span / kΩ
Response time	≤ 10 msec
[1] accuracy according to EN IEC 62828-2– limit point adjustment (non-linearity, hysteresis, repeatability)	
Thermal effects (Offset and Span)	
Thermal error	≤ ± 0.2 % span / 10 K in compensated range -25 … 70 °C
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
Electromagnetic protection	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
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	stainless steel 1.4404 (316L)
Seals	FKM EPDM
Diaphragm	ceramics Al_2O_3 96 %
Protection cap	POM-C
Cable sheath	PVC, PUR, FEP, others on request
Explosion protection (only for 4 … 20 mA / 2-wire)	
Approvals DX9-LMK 307	**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 ≈ 0 µH, 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: -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: 1µH/m
Miscellaneous	
Option SIL[5] 2 application	according to IEC 61508 / IEC 61511
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA
Weight	approx. 250 g (without cable)
Ingress protection	IP 68
CE-conformity	EMC Directive: 2014/30/EU
ATEX Directive	2014/34/EU
[5] only for 4...20mA / 2-wire	

Wiring diagrams

2-wire-system (current)



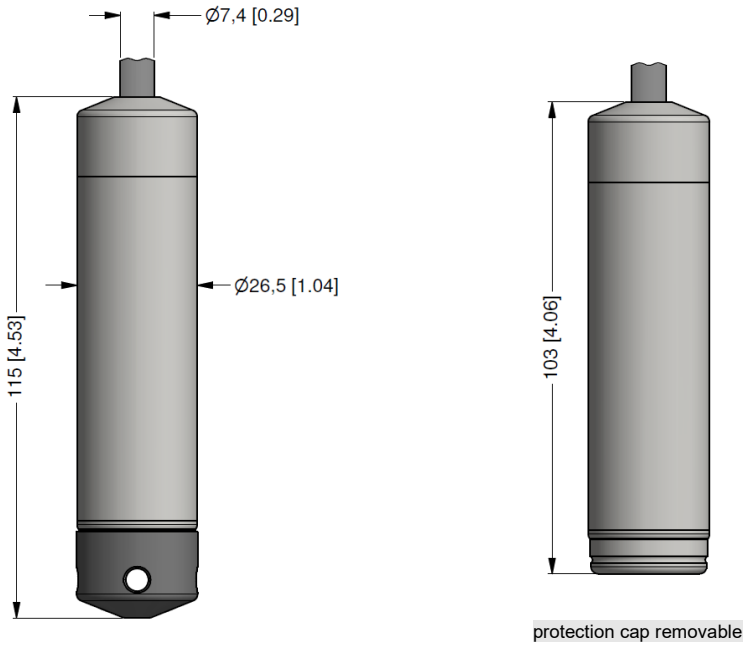
3-wire-system (current / voltage)



Pin configuration

Electrical connection	cable colours (DIN 47100)
Supply + Supply – Signal + (only 3-wire)	wh (white) bn (brown) gn (green)
Shield	ye/gn (yellow / green)

Dimensions (in mm)



protection cap removable

Accessories

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

Tel.: +420 572 411 011
www.bdsensors.cz
info@bdsensors.cz
BD SENSORS® pressure measurement

Ordering code LMK 307

23.08.2024

LMK 307 □□□ - □□□□ - □ - □ - □□□ - □ - □ - □ - □□□ - □□□

Pressure			
in bar			380
in H_2O			381
Input	**[mH_2O]**	**[bar]**	
	0 … 4	0 … 0,4	4000
	0 … 6	0 … 0,6	6000
	0 … 10	0 … 1	1001
	0 … 16	0 … 1,6	1601
	0 … 25	0 … 2,5	2501
	0 … 40	0 … 4	4001
	0 … 60	0 … 6	6001
	0 … 100	0 … 10	1002
	0 … 160	0 … 16	1602
	0 … 250	0 … 25	2502
Customer			9999
Housing material			
Stainless steel 1.4404 (316 L)			1
Customer			9
Diaphragm material			
Ceramic Al_2O_3 96 %			2
Customer			9
Output signal			
4 … 20 mA / 2-wire			1
0 … 20 mA / 3-wire			2
0 … 10 V / 3-wire[2]			3
Intrinsic safety Ex ia 4 … 20 mA / 2-wire			E
SIL2, 4 … 20 mA / 2-wire			1S
SIL2, Intrinsic safety 4 … 20 mA / 2-wire			ES
Customer			9
Seals			
Viton (FKM)			1
EPDM			3
Customer			9
Accuracy			
0,5 %			5
0,5 % including Calibration Certificate			T
Table of measured values for accuracy 0,5 %			N
Customer			9
Electrical connection[1]			
PVC - cable (grey, Ø 7,4 mm, price for 1 m)			1
PUR - cable (black, Ø 7,4 mm, price for 1 m)			2
FEP - cable with PTFE sheath (black, Ø 7,4 mm, price for 1 m)			3
TPE-U - cable, up to 125 °C (blue, Ø 7.4 mm, price for 1 m)			4
Customer			9
Cable length			
in m			999
Special version			
Standard			000
Customer			999
Accessories for submersible transmitter			
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
BD SENSORS reserves the right to change sensor specifications without further notice.

1 shielded cable with integrated ventilation tube for atmospheric pressure reference
2 maximum length of PVC cable – 25 m, PUR, FEP, TPE – 40 m