BD SENSORS®
pressure measurement

LMK 807

Plastic Probe for Aggressive Media

Ceramic Sensor

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

Nominal pressure

from 0 ... 4 mH_2O up to 0 ... 100 mH_2O

Output signals

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

Special characteristics

- diameter 35 mm
- excellent long term stability
- easy handling

Optional versions

- SIL 2 (Safety Integrity Level)
  according to IEC 61508 / IEC 61511
- different kinds of cables and
  elastomers
- customer specific version
  e. g. special pressure ranges

The plastic submersible probe LMK 807 is designed for continous level measurement for waste water or and different aggressive media.

Basic element of the plastic submersible probe is the flush mounted ceramic sensor, which makes cleaning easier when solid parts of the medium deposit on it. Different cable and elastomer materials are available in order to achieve maximum media compatibility.

Preferred areas of use are

Sewage
waste water treatment
water recycling
dumpsite

Aggressive media
level measurement in most of acids and lyes

BD SENSORS s.r.o.
Hradišťská 817
CZ – 687 08 Buchlovice

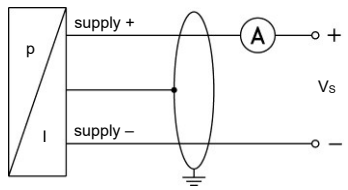
Tel.: +420 572 411 011

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
Level [mH_2O]	4	6	10	16	25	40	60	100
Overpressure [bar]	1	2	2	4	4	10	10	20
Burst pressure ≥ [bar]	2	4	4	5	5	12	12	25
max. ambient pressure (housing)	20 bar							

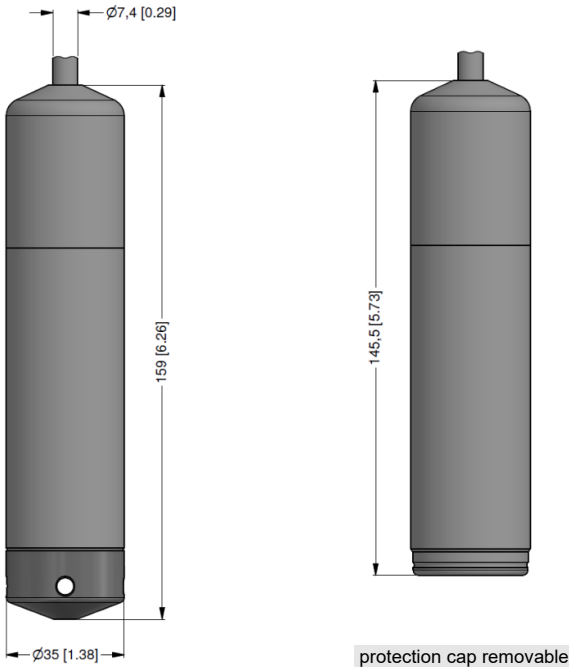
Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / V_S = 8 ... 32 V_{DC} SIL-version: V_S = 14 … 28 V_{DC}
Performance	
Accuracy [1]	≤ ± 0.5 % span
Permissible load	$R_{max} = [(V_S – V_{S\,min}) / 0.02\ A]\ \Omega$
Influence effects	supply: 0.05 % span / 10 V load: 0.05 % span / kΩ
Long term stability	≤ ± 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)	
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 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] 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 / FFKM
Diaphragm	ceramics Al_2O_3 96 %
Plášť kabelu	PVC, PUR, FEP
Miscellaneous	
Option SIL 2 application	according to IEC 61508 / IEC 61511
Current consumption	max. 25 mA
Weight	approx. 200 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 (DIN 47100)
Supply + Supply –	wh (white) bn (brown)
Shield	gn/ye (green / yellow)

Dimensions (in mm)

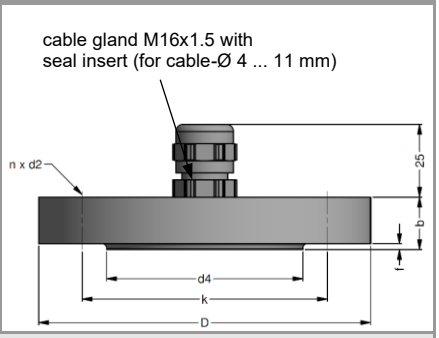


protection cap removable

Accessories

Assembling 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**
Assembling Flange DN25 / PN40	5000275
Assembling Flange DN50 / PN40	5000278
Assembling Flange DN80 / PN16	5000279

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

Tel.: +420 572 411 011

www.bdsensors.cz
info@bdsensors.cz

Ordering code LMK 807

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Pressure			
in bar			3 9 0
in m H_2O			3 9 1
Input	**[mH_2O]**	**[bar]**	
	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
	0 … 160	0 … 16	1 6 0 2
	0 … 250	0 … 25	2 5 0 2
Customer			9 9 9 9
Housing material			
PP-HT			R
Customer			9
Diaphragm material			
Ceramic Al_2O_3 96%			2
Customer			9
Output signal			
4 … 20 mA / 2-wire			1
SIL2, 4 … 20 mA / 2-wire			1S
0 … 10 V / 3-wire [2]			3
Customer			9
Seals			
Viton (FKM)			1
EPDM			3
FFKM			7
Customer			9
Accuracy			
0,5 %			5
0,5 % including Calibration Certificate			T
Customer			9
Electrical connection			
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
Cable length			
in m			9 9 9
Special version			
Standard			0 0 0
Customer			9 9 9
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
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