



LMK 807

Plastic Probe for Aggressive Media

Ceramic Sensor

accuracy according to IEC 60770:
0.5 % FSO

Nominal pressure

from 0 ... 4 mH₂O up to 0 ... 100 mH₂O

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 continuous 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



Input pressure range									
Nominal pressure gauge	[bar]	0.4	0.6	1	1.6	2.5	4	6	10
Level	[mH ₂ O]	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

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 % 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)	
Thermal error	≤ ± 0.2 % FSO / 10 K in compensated range -25 ... 70 °C

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
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	
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

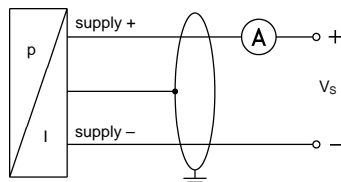
⁴ do not use freely suspended probes with an FEP cable if effects due to highly charging processes are expected

Materials (media wetted)	
Housing	PP-HT
Seals	FKM / EPDM / FFKM
Diaphragm	ceramics Al ₂ O ₃ 96 %
Plášť kabelu	PVC, PUR, FEP

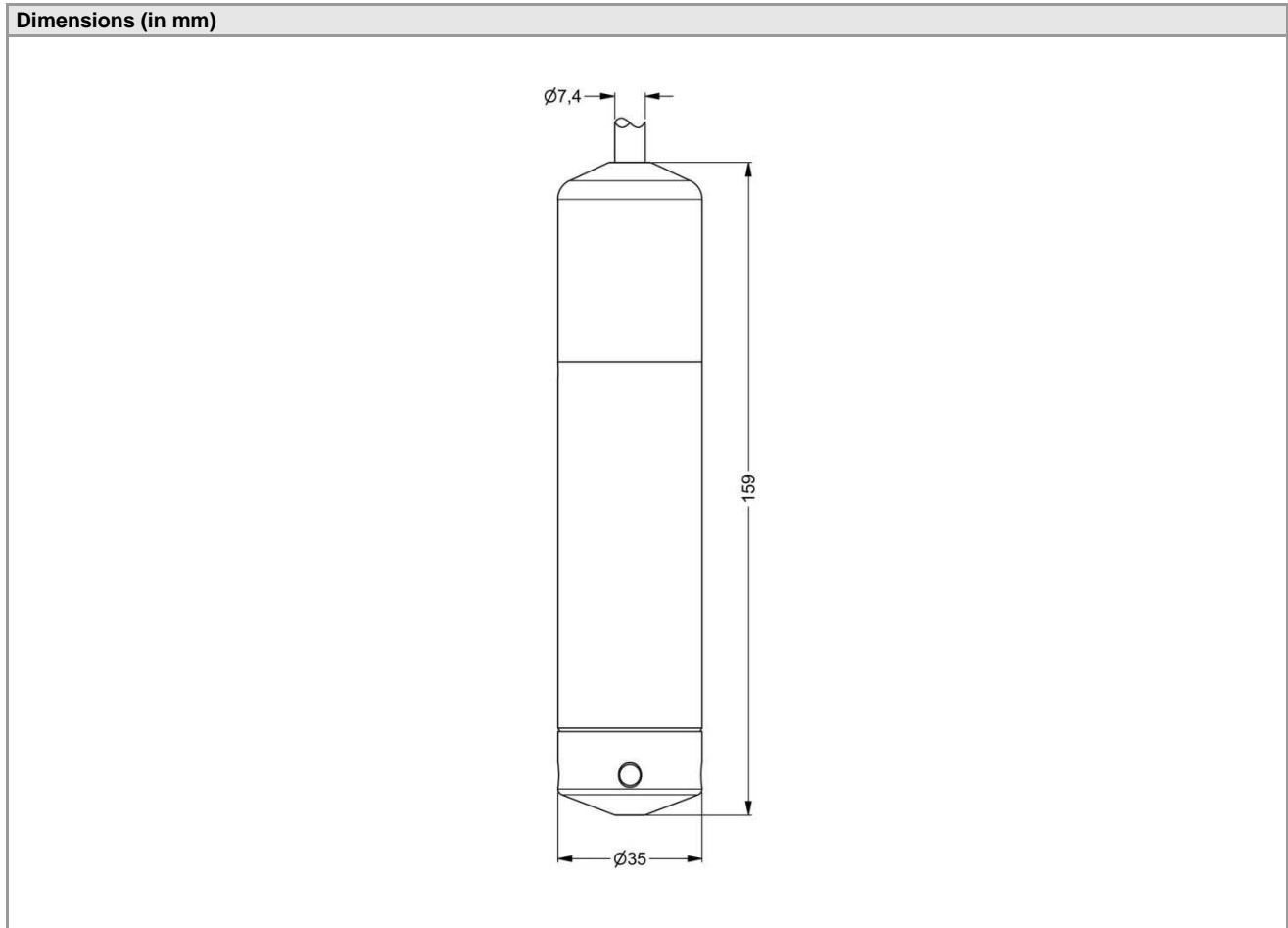
Miscellaneous	
Option SIL 2 application	according to IEC 61508 / IEC 61511
Current consumption	max. 25 mA
Weight	approx. 200 g (without cable)
Ingress protection	IP 68
CE-conformity	EMC Directive: 2014/30/EU

Wiring diagram

2-wire-system (current)



Pin configuration	
Electrical connection	cable colours (DIN 47100)
Supply +	wh (white)
Supply -	bn (brown)
Shield	gn/ye (green / yellow)



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

cable gland M16x1.5 with seal insert (for cable-Ø 4 ... 11 mm)

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

This data sheet contains product specification. properties are not guaranteed. Subject to change without notice.

Ordering code LMK 807

3.4.2020

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Pressure																					
in bar		3	9	0																	
in m H ₂ O		3	9	1																	
Input	[mH₂O]	[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															
Housing material																					
PP-HT								R													
Customer								9													
Diaphragm material																					
Ceramic Al ₂ O 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 ¹										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							
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							
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
 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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