

# LMK 807

## Plastic Probe for Aggressive Media

Ceramic Sensor

accuracy according to IEC 60770:  
0.5 % FSO



### Nominal pressure

from 0 ... 4 mH<sub>2</sub>O up to 0 ... 100 mH<sub>2</sub>O

### Output signals

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

### Special characteristics

- ▶ diameter 35 mm
- ▶ good 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 versions e. g. special pressure ranges

The plastic submersible probe LMK 807 is designed for continuous level measurement for highly polluted and 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 <sub>2</sub> 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
Max. ambient pressure (housing): 20 bar									

Output signal / Supply		
2-wire	4 ... 20 mA / V <sub>S</sub> = 8 ... 32 V <sub>DC</sub>	SIL-version: V <sub>S</sub> = 14 ... 28 V <sub>DC</sub>

Performance	
Accuracy <sup>1</sup>	≤ ± 0.5 % FSO
Permissible load	R <sub>max</sub> = [(V <sub>S</sub> - V <sub>Smin</sub> ) / 0.02 A] Ω
Influence effects	supply: 0.05 % FSO / 10 V      load: 0.05 % FSO / kΩ
Long term stability	≤ ± 0.1 % FSO / year at reference conditions
Response time	≤ 10 msec

<sup>1</sup> 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 0 ... 70 °C

Permissible temperatures	
Permissible temperatures	medium / electronic / environment / storage: -25 ... 80 °C

Electrical protection <sup>2</sup>	
Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
Electromagnetic compatibility	emission and immunity according to EN 61326

<sup>2</sup> 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 <sup>3</sup>	PVC (-5 ... 70 °C) grey Ø 7.4 mm PUR (-25 ... 70 °C) black Ø 7.4 mm FEP <sup>4</sup> (-25 ... 70 °C) black Ø 7.4 mm others on request
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

<sup>3</sup> shielded cable with integrated ventilation tube for atmospheric pressure reference

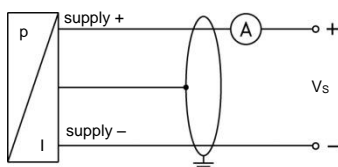
<sup>4</sup> do not use freely suspended probes with an FEP cable if effects due to highly charging processes are expected

Materials (media wetted)	
Housing	PP-HT
Seals	FKM, EPDM, FFKM
Diaphragm	ceramics Al <sub>2</sub> O <sub>3</sub> 96 %
Protection cap	POM-C
Cable sheath	PVC, PUR, FEP

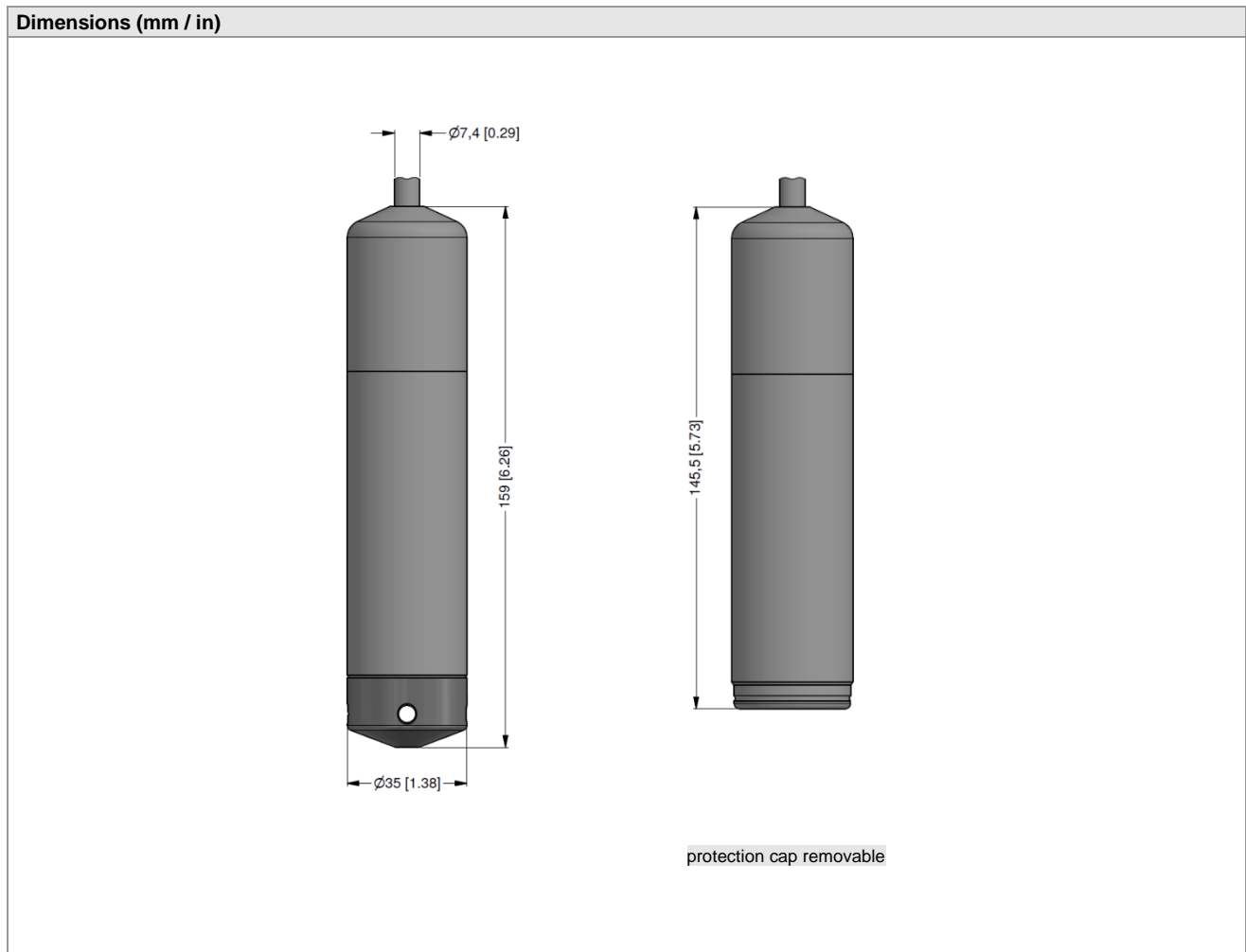
Miscellaneous	
Option SIL 2 version	according to IEC 61508 / IEC 61511
Current consumption	max. 25 mA
Weight	approx. 200 g (without cable)
Ingress protection	IP 68
CE-conformity	EMC Directive: 2014/30/EU

### Wiring diagram

2-wire-system (current)



Pin configuration	
Electrical connection	cable colours (IEC 60757)
Supply +	WH (white)
Supply -	BN (brown)
Shield	GNYE (green-yellow)



## Accessories

Terminal clamp		
Technical data		
Suitable for	all probes with cable $\varnothing$ 5.5 ... 10.5 mm	
Material of housing	standard: steel, zinc plated      optionally: stainless steel 1.4301 (304)	
Material of clamping jaws and positioning clips	PA (fibre-glass reinforced)	
Dimensions (mm)	174 x 45 x 32	
Hook diameter	20 mm	
Ordering type	Ordering code	Weight
Terminal clamp, steel, zinc plated	Z100528	approx. 160 g
Terminal clamp, stainless steel 1.4301 (304)	Z100527	

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## Ordering code LMK 807

LMK 807



<b>Pressure</b>																				
	in bar	3	9	0																
	in mH <sub>2</sub> O	3	9	1																
<b>Input</b>	[mH <sub>2</sub> O]	[bar]																		
	4	0.4			4	0	0	0												
	6	0.6			6	0	0	0												
	10	1.0			1	0	0	1												
	16	1.6			1	6	0	1												
	25	2.5			2	5	0	1												
	40	4.0			4	0	0	1												
	60	6.0			6	0	0	1												
	100	10			1	0	0	2												
	customer				9	9	9	9												consult
<b>Housing</b>																				
	PP-HT							R												
	customer							9												consult
<b>Diaphragm</b>																				
	ceramics Al <sub>2</sub> O <sub>3</sub> 96%							2												
	customer							9												consult
<b>Output</b>																				
	4 ... 20 mA / 2-wire									1										
	SIL2 4 ... 20 mA / 2-wire									1S										
	customer									9										consult
<b>Seals</b>																				
	FKM									1										
	EPDM									3										
	FFKM									7										
	customer									9										consult
<b>Accuracy</b>																				
	0.5 % FSO									5										
	customer									9										consult
<b>Electrical connection</b>																				
	PVC-cable (grey, Ø 7.4 mm)	<sup>1</sup>									1									
	PUR-cable (black, Ø 7.4 mm)	<sup>1</sup>									2									
	FEP-cable (black, Ø 7.4 mm)	<sup>1</sup>									3									
	customer										9									consult
<b>Cable length</b>																				
	in m										9	9	9							
<b>Special version</b>																				
	standard														0	0	0			
	customer														9	9	9			consult

<sup>1</sup> shielded cable with integrated ventilation tube for atmospheric pressure reference