



# LMK 809

## Plastic Probe For Aggressive Media

### High Purity Ceramic Sensor

**accuracy according to IEC 60770:**  
**standard: 0.35 % FSO**  
**option: 0.25 % FSO**

Plastic Probe

LMK 809

#### **Nominal pressure**

from 0 ... 0.4 mH<sub>2</sub>O  
up to 0 ... 100 mH<sub>2</sub>O

#### **Special characteristics**

- ▶ diameter 45 mm
- ▶ chemical resistance
- ▶ high overpressure resistance
- ▶ especially for tank level measurement of viscous and aggressive media
- ▶ diaphragm 99.9 % Al<sub>2</sub>O<sub>3</sub>
- ▶ housing material PP or PVDF

#### **Optional versions**

- ▶ different kinds of cable and seal materials
- ▶ prepared for mounting with pipe

CE

The plastic submersible probe LMK 809 is designed for continuous level measurement in waste water or in most of aggressive media. Basic element is a capacitive ceramic sensor.

Basic element of the plastic probe is the flush mounted ceramic sensor, which makes cleaning easier when solid parts of the medium deposit on it.

Different cable and seal materials are available in order to achieve maximum media compatibility.

#### **Preferred areas of use are**

##### Sewage



waste water treatment  
water recycling  
dumpsite

##### Aggressive media



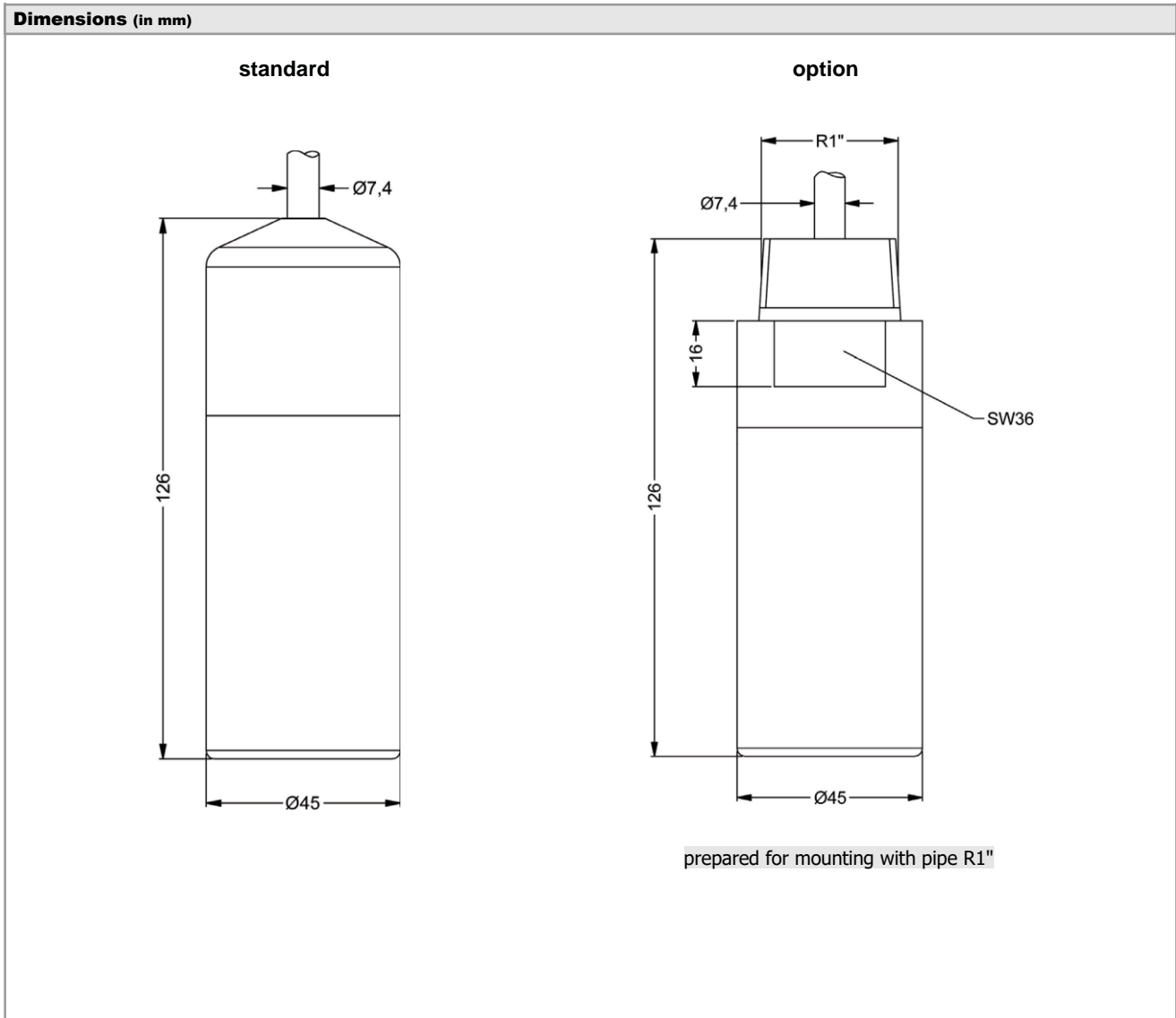
level measurement in most of acids  
and lyes

<b>Input pressure range</b>													
Nominal pressure gauge [bar]	0.04	0.06	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10
Level [mH <sub>2</sub> O]	0.4	0.6	1	1.6	2.5	4	6	10	16	25	40	60	100
Overpressure [bar]	2	2	4	4	6	6	8	8	15	25	25	35	35
<b>Output signal / Supply</b>													
Standard	2-wire: 4 ... 20 mA / V <sub>S</sub> = 9 ... 32 V <sub>DC</sub>												
Option 3-wire	3-wire: 0 ... 10 V / V <sub>S</sub> = 12.5 ... 32 V <sub>DC</sub>												
<b>Performance</b>													
Accuracy <sup>1</sup>	standard: ≤ ± 0.35 % FSO option: ≤ ± 0.25 % FSO												
Permissible load	$R_{max} = [(V_S - V_{Smin}) / 0.02] \wedge$												
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / k $\wedge$												
Long term stability	≤ ± 0.1 % FSO / year												
Turn-on time	700 msec												
Mean response time	< 200 msec										measuring rate: 5/sec		
Max. response time	380 msec												
<sup>1</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)													
<b>Thermal effects (Offset and Span)</b>													
Thermal error	≤ ± 0.1 % FSO / 10 K in compensated range 0 ... 70 °C												
<b>Permissible temperatures</b>													
Permissible temperatures	medium: -25 ... 100 °C electronic / environment: -25 ... 100 °C storage: -25 ... 100 °C												
<b>Electrical protection <sup>2</sup></b>													
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													
<b>Electrical connection</b>													
Cable with sheath material <sup>3</sup>	PUR (-25 ... 70 °C) black FEP (-25 ... 70 °C) black TPE (-25 ... 100 °C) blue												
<sup>3</sup> cable with integrated air tube for atmospheric pressure reference													
<b>Materials (media wetted)</b>													
Housing	standard: PP option: PVDF												
Seals	FKM / EPDM / FFKM												
Diaphragm	ceramics Al <sub>2</sub> O <sub>3</sub> 99.9 %												
<b>Miscellaneous</b>													
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: 1 μH/m												
Current consumption	max. 21 mA												
Weight	approx. 320 g (without cable)												
Ingress protection	IP 68												
CE-conformity	EMC Directive: 2004/108/EC												
<b>Wiring diagram</b>													
<b>2-wire-system (current)</b> 							<b>3-wire-system (voltage)</b> 						
<b>Pin configuration</b>													
Electrical connection	cable colours (DIN 47100)												
Supply +	wh (white)												
Supply -	bn (brown)												
Signal + (only for 3-wire)	(green)												
Shield	gn/ye (green / yellow)												

# LMK 809

Plastic Probe

Technical Data



## Accessories

Terminal clamp	
<b>Technical Data</b>	
Suitable for	all probes with cable $\varnothing$ 5.5 ... 10.5 mm
Material	standard: steel, zinc plated optionally: stainless steel 1.4301 (304)
Weight	approx. 160 g
<b>Ordering type</b>	<b>Ordering code</b>
Terminal clamp, steel, zinc plated	Z100528
Terminal clamp, stainless steel 1.4301 (304)	Z100527

# Ordering code LMK 809

## LMK 809

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Pressure																					
	in bar	3	9	5																	
	in mH <sub>2</sub> O	3	9	6																	
Input		[mH <sub>2</sub> O] [bar]																			
	0.40	0.04			0	4	0	0													
	0.60	0.06			0	6	0	0													
	1.0	0.10			1	0	0	0													
	1.6	0.16			1	6	0	0													
	2.5	0.25			2	5	0	0													
	4.0	0.40			4	0	0	0													
	6.0	0.60			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
Housing																					
	PP									E											
	PVDF									B											
	customer									9											consult
Diaphragm																					
	Ceramics Al <sub>2</sub> O <sub>3</sub> 99.9%									C											
	customer									9											consult
Output																					
	4 ... 20 mA / 2-wire									1											
	0 ... 10 V / 3-wire									3											
	customer									9											consult
Seals																					
	FKM									1											
	EPDM									3											
	FFKM									7											
	customer									9											consult
Accuracy																					
	standard	0.35 %								3											
	option	0.25 %								2											
	customer									9											consult
Electrical connection																					
	PUR-cable <sup>1</sup>									2											
	FEP-cable <sup>1</sup>									3											
	TPE-cable									4											
	customer									9											consult
Cable length																					
	in m										9	9	9								
Special version																					
	standard															0	0	0			
	pipe R1"															6	1	0			
	customer															9	9	9			consult

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



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