



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 mH₂O
up to 0 ... 100 mH₂O

Special characteristics

- ▶ diameter 45 mm
- ▶ chemical resistance
- ▶ high overpressure resistance
- ▶ especially for tank level measurement of viscous and aggressive media
- ▶ diaphragm 99.9 % Al₂O₃
- ▶ 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



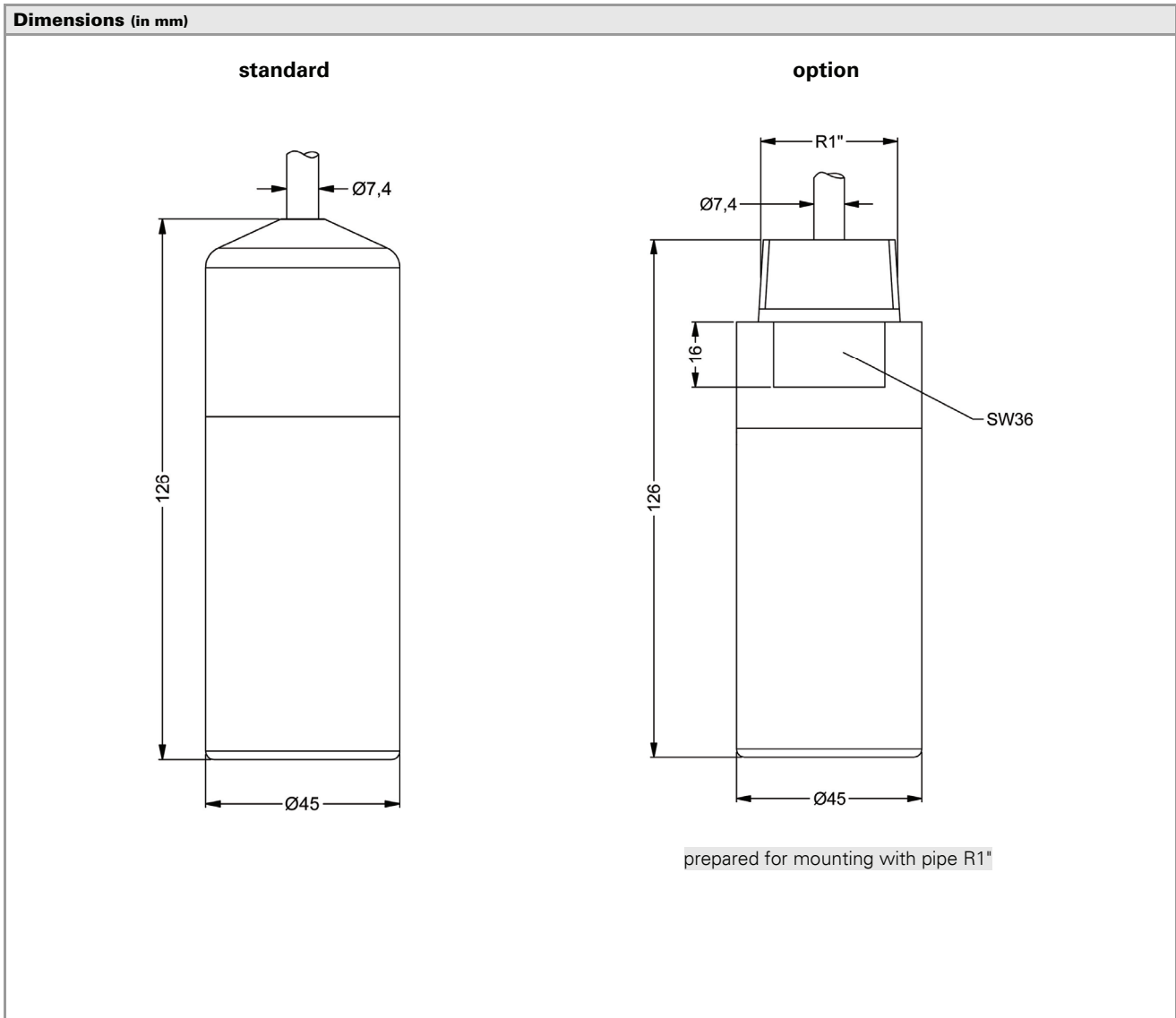
waste water treatment
water recycling
dumpsite

Aggressive media



level measurement in most of acids
and lyes

Input pressure range													
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 ₂ 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
Output signal / Supply													
Standard	2-wire: 4 ... 20 mA / V _s = 9 ... 32 V _{DC}												
Option 3-wire	3-wire: 0 ... 10 V / V _s = 12.5 ... 32 V _{DC}												
Performance													
Accuracy ¹	standard: ≤ ± 0.35 % FSO option: ≤ ± 0.25 % FSO												
Permissible load	$R_{max} = [(V_s - V_{s,min}) / 0.02] \Omega$												
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / kΩ												
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												
¹ accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)													
Thermal effects (Offset and Span)													
Thermal error	≤ ± 0.1 % FSO / 10 K in compensated range 0 ... 70 °C												
Permissible temperatures													
Permissible temperatures	medium: -25 ... 100 °C electronic / environment: -25 ... 100 °C storage: -25 ... 100 °C												
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	PUR (-25 ... 70 °C) black FEP (-25 ... 70 °C) black TPE (-25 ... 100 °C) blue												
³ cable with integrated air tube for atmospheric pressure reference													
Materials (media wetted)													
Housing	standard: PP option: PVDF												
Seals	FKM / EPDM / FFKM												
Diaphragm	ceramics Al ₂ O ₃ 99.9 %												
Miscellaneous													
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												
Wiring diagram													
2-wire-system (current) 							3-wire-system (voltage) 						
Pin configuration													
Electrical connection	cable colours (DIN 47100)												
Supply +	wh (white)												
Supply -	bn (brown)												
Signal + (only for 3-wire)	(green)												
Shield	gn/ye (green / yellow)												



Accessories

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	
Terminal clamp, steel, zinc plated	Z100528
Terminal clamp, stainless steel 1.4301 (304)	Z100527

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

Ordering code LMK 809

LMK 809

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Pressure																						
	in bar	3	9	5																		
	in mH ₂ O	3	9	6																		
Input			[mH ₂ 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																
Housing																						
	PP					E																
	PVDF					B																
	customer					9																
Diaphragm																						
	Ceramics Al ₂ O ₃ 99.9%					C																
	customer					9																
Output																						
	4 ... 20 mA / 2-wire					1																
	0 ... 10 V / 3-wire					3																
	customer					9																
Seals																						
	FKM					1																
	EPDM					3																
	FFKM					7																
	customer					9																
Accuracy																						
standard	0.35 %					3																
option	0.25 %					2																
	customer					9																
Electrical connection																						
	PUR-cable ¹					2																
	FEP-cable ¹					3																
	TPE-cable					4																
	customer					9																
Cable length																						
	in m					9	9	9														
Special version																						
	standard					0	0	0														
	pipe R1"					6	1	0														
	customer					9	9	9														

¹ cable with integrated air tube for atmospheric pressure reference

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