



LMK 809

Plastic Probe For Aggressive Media

High Purity Ceramic Sensor

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

Nominal pressure

from 0 ... 0.4 mH₂O up to 0 ... 100 mH₂O

Output signals

2-wire: 4 ... 20 mA
3-wire: 0 ... 10 V
others on request

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

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



LMK 809

Plastic Probe

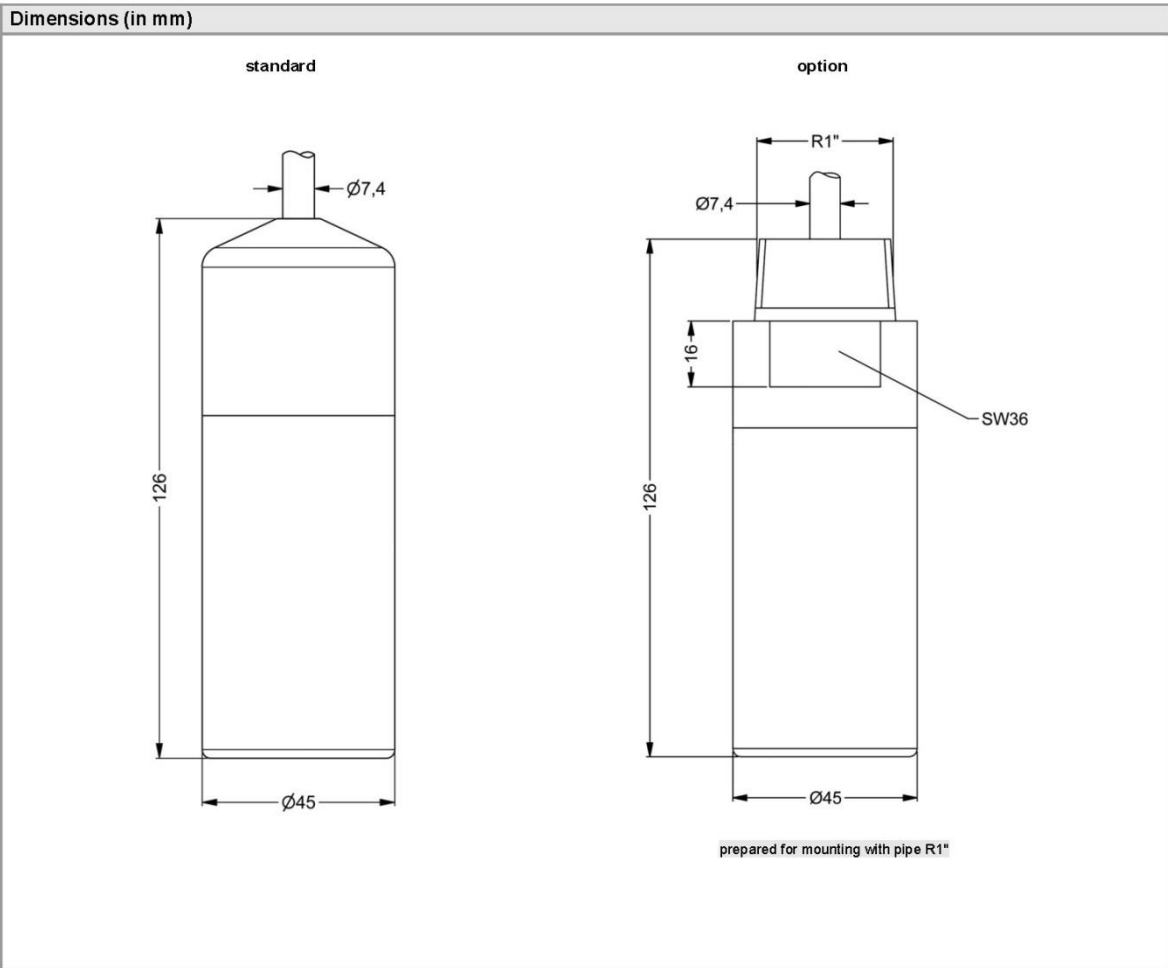
Technical Data

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	$R_{max} = [(V_S - V_{S min}) / 0.02 A] \Omega$													
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / kΩ													
Long term stability	≤ ± 0.1 % FSO / year at reference conditions													
Turn-on time	700 msec													
Mean response time	< 200 msec													
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														
<p>2-wire-system (current)</p>	<p>3-wire-system (voltage)</p>													
Pin configuration														
Electrical connection	cable colours (DIN 47100)													
Supply +	wh (white)													
Supply -	bn (brown)													
Signal + (only for 3-wire)	gn (green)													
Shield	gn/ye (green / yellow)													

LMK 809

Plastic Probe

Technical Data

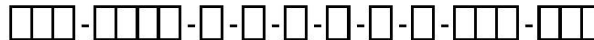


Accessories

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

Ordering code LMK 809

LMK 809



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									consult
Housing																		
		PP							E									
		PVDF							B									
		customer							9									consult
Diaphragm																		
		Ceramics Al ₂ O ₃ 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 ¹							2									
		FEP-cable ¹							3									
		TPE-cable ¹							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

¹ cable with integrated air tube for atmospheric pressure reference