

LMK 809

Plastic Probe For Aggressive Media

High Purity Ceramic Sensor

accuracy according to EN IEC 62828-2:
standard: 0.35 % span
option: 0.25 % span



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-H or PVDF

Optional versions

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

The **LMK 809 plastic submersible probe** is designed for **continuous level measurement** in wastewater and aggressive media. At its core is a **polished, 99.9% pure ceramic capacitive sensor**, offering **excellent chemical and mechanical resistance**.

Thanks to its **flush-mounted diaphragm**, the probe is easy to clean and resistant to the build-up of solid particles. A wide selection of **cable and seal materials** ensures **optimal compatibility with a broad range of media**.

Typical applications include **wastewater treatment plants** and industrial processes requiring reliable level monitoring in **heavily contaminated or chemically aggressive liquids**.

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	25	25
Max. ambient pressure (housing): 10 bar														

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 % span option: ≤ ± 0.25 % span
Permissible load	R _{max} = [(V _S - V _{S min}) / 0.02 A] Ω
Influence effects	supply: 0.05 % span / 10 V load: 0.05 % span / kΩ
Long term stability	≤ ± 0.1 % span / year
Turn-on time	700 msec
Mean response time	< 200 msec
Max. response time	380 msec
¹ accuracy according to EN IEC 62828-2– limit point adjustment (non-linearity, hysteresis, repeatability)	

Thermal effects (Offset and Span)	
Thermal error	≤ ± 0.1 % span / 10 K in compensated range -20 ... 80 °C

Permissible temperatures (Medium/ electronics/ environment/ storage)	
PVDF	-30 ... 60 °C *
PP-H	pressure range 0 ... 10 bar: 0 ... 25 °C max. overpressure 25 bar pressure range 0 ... 2.5 bar: 0 ... 50 °C max. overpressure 3.5 bar for 24 hours

*If the cable is intended for use in a smaller temperature range, the use of the probe is limited by this range.

Electrical protection ²	
Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
Lightning protection	2-wire: integrated 3-wire: without
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 (-40 ... 80 °C) grey Ø 7.4 mm PUR (-40 ... 80 °C) black (with drinking water certificate) Ø 7.4 mm FEP ⁴ (-40 ... 80 °C) black Ø 7.4 mm TPE-U (-40 ... 125 °C) blue 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

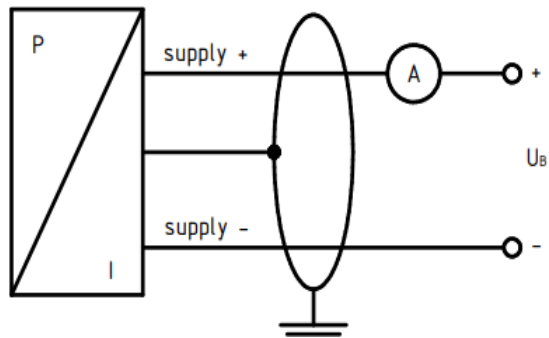
⁴ do not use freely suspended probes with an FEP cable if effects due to highly charging processes are expected

Materials (media wetted)	
Housing	standard: PP-H option: PVDF
Seals	FKM / EPDM (with drinking water certificate) / FFKM
Diaphragm	ceramics Al ₂ O ₃ 99.9 %
Cable sheath	PVC, PUR, FEP, TPE-U

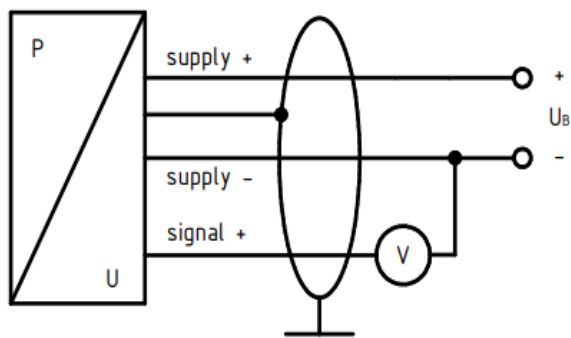
Miscellaneous	
Option pipe R1"	prepared for mounting with plastic pipe
Connecting cables (by factory)	cable capacitance: signal line/shield also signal line/signal line: 160 pF/m cable inductance: signal line/shield also signal line/signal line: 1 µH/m
Current consumption	max. 21 mA
Weight	approx. 320 g (without cable)
Ingress protection	IP 68
CE-conformity	EMC Directive: 2014/30/EU

Wiring diagram

2-wire-system (current)



3-wire-system (voltage)

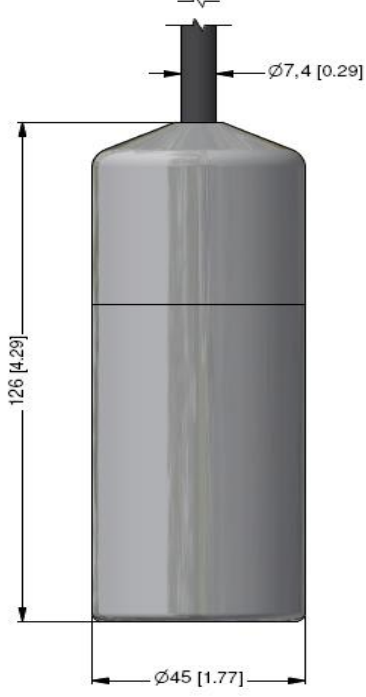


Pin configuration

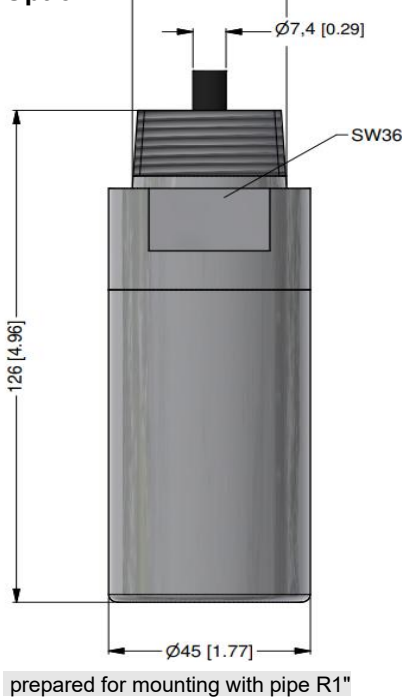
Electrical connection	cable colours (EN IEC 60757)
Supply +	wh (white)
Supply -	bn (brown)
Signal + (only for 3-wire)	gn (green)
Shield	gn/ye (green / yellow)

Dimensions (in mm)

Standard



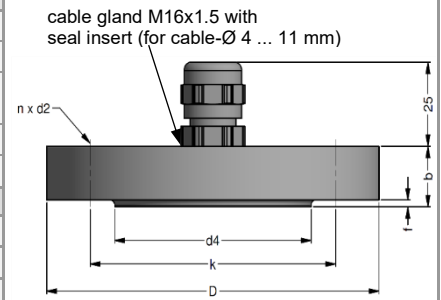
Option



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

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, zinc 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



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



Ordering code LMK 809

14.08.2025

LMK 809

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Pressure					
in bar					
3	9	5			
in m H ₂ O					
3	9	6			
Input					
[mH ₂ O]	[bar]				
0 ... 0.4	0 ... 0,04		0	4	0
0 ... 0.6	0 ... 0,06		0	6	0
0 ... 1	0 ... 0,1		1	0	0
0 ... 1.6	0 ... 0,16		1	6	0
0 ... 2.5	0 ... 0,25		2	5	0
0 ... 4	0 ... 0,4		4	0	0
0 ... 6	0 ... 0,6		6	0	0
0 ... 10	0 ... 1		1	0	1
0 ... 16	0 ... 1,6		1	6	1
0 ... 25	0 ... 2,5		2	5	1
0 ... 40	0 ... 4		4	0	1
0 ... 60	0 ... 6		6	0	1
0 ... 100	0 ... 10		1	0	2
Customer					
9 9 9 9					
Housing material					
PP-H R1					
PVDF (accuracy 0,5 %)					
B					
Customer					
9					
Diaphragm material					
Ceramic Al ₂ O ₃ 99,9 % C					
Ceramic Al ₂ O ₃ 96 % with PTFE foil (accuracy ≥ 1%)- not possible used for underpressure					
3					
Customer					
9					
Output					
4 ... 20 mA / 2-wire					
1					
0 ... 10 V / 3-wire ³					
3					
Customer					
9					
Seals					
Viton (FKM)					
1					
EPDM					
3					
FFKM					
7					
Customer					
9					
Accuracy					
0,5 % (PVDF housing)					
5					
0,35 % (standart)					
3					
0,25 %					
2					
0,5 % including Calibration Certificate					
T					
0,35 % including Calibration Certificate					
S					
Customer					
9					
Electrical connection					
PUR - cable (black, Ø 7,4 mm, price for 1 m) ¹					
2					
FEP - cable with PTFE sheath (black, Ø 7,4 mm, price for 1 m) ¹					
3					
TPE-U - cable, up to 125 °C (blue, Ø 7.4 mm, price for 1 m) ¹					
4					
Customer					
9					
Cable length					
in m					
9 9 9					
Special version					
Standard					
0 0 0					
R 1" thread - Prepared for mounting with plastic pipe ²					
6 1 0					
Temprature compensation 0 ... 100 °C					
8 4 8					
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 On request ... in accordance with the producer

This document contains the specification for ordering the product; detailed technical parameters of the product and its possible variants are given in the data :

1 shielded cable with integrated ventilation tube for atmospheric pressure reference

2 pipe is not part of the supply

3 maximum length of PVC cable – 25 m, PUR, FEP, TPE – 40 m Surcharges for calibration are not subject to any discounts. Subject to change