



# LMK 808

## Detachable Plastic Probe

Ceramic Sensor

accuracy according to IEC 61298-2:  
standard: 0.35 % FSO  
option: 0.25 % FSO

### Nominal pressure

from 0 ... 1 mH<sub>2</sub>O up to 0 ... 100 mH<sub>2</sub>O

### Output signal

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

### Special characteristics

- ▶ diameter 35 mm
- ▶ diaphragm ceramics 99.9% Al<sub>2</sub>O<sub>3</sub>
- ▶ cable assembly and sensor head detachable
- ▶ good long-term stability
- ▶ integrated lightning protection  
8 kA gas discharge tube (8/20μsec);  
4 kV surge I-I-I-e according to  
EN61000-4-5

### Optional versions

- ▶ different kinds of cables and elastomers
- ▶ customer specific versions  
e. g. special pressure ranges
- ▶ pipe mounting
- ▶ cable protection
- ▶ mounting accessories

The separable plastic submersible probe LMK 808 is ideal for level measurements in water and wastewater, for level measurements in aggressive media (acids, alkalis) or for desalination plants. Since the area of application is often outside a building, emphasis was placed on a high level of surge/lightning protection. The heart of the LMK 808 is an extremely robust, almost maintenance-free, high-purity, capacitive ceramic sensor. To simplify maintenance work or storage, the probe head can be separated from the cable part and can therefore be replaced, if necessary, without complex assembly work. Various mounting options are available and, if necessary, the cable can be protected against rodent bites.

### Preferred areas of use



#### Water

groundwater and level monitoring  
sea water



#### Sewage

waste water treatment  
water recycling



#### Aggressive media

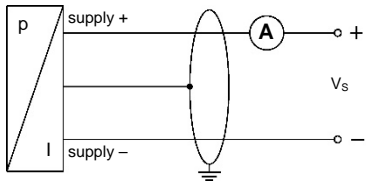
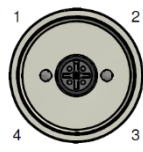
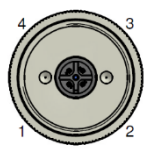
level measurement in  
most of acids and lyes

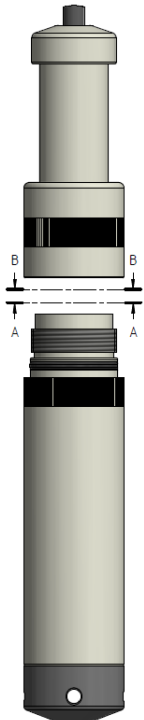
Input pressure range												
Nominal pressure gauge	[bar]	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10
Level	[mH <sub>2</sub> O]	1	1.6	2.5	4	6	10	16	25	40	60	100
Overpressure	[bar]	3	4	5	5	7	7	12	20	20	20	20
Burst pressure ≥	[bar]	4	6	8	8	9	9	18	25	25	30	30
Permissible vacuum	[bar]	-0.2	-0.3	-0.5				-1				
Max. ambient pressure (housing): 20 bar												
Output signal / Supply												
2-wire		4 ... 20 mA / V <sub>S</sub> = 13 ... 30 V <sub>DC</sub>										
Performance												
Accuracy <sup>1</sup>		standard: ≤ ± 0.35 % FSO option: ≤ ± 0.25 % FSO										
Permissible load		R <sub>max</sub> = [(V <sub>S</sub> – V <sub>S min</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										
Turn-on time		up to 1.5 sec										
Mean response time		≤ 20 msec										
Measuring rate		200 Hz										
<sup>1</sup> accuracy according to IEC 61298-2 – limit point adjustment (non-linearity, hysteresis, repeatability)												
Thermal effects (offset and span)												
Tolerance band		≤ ± 1 % FSO in compensated range -20 ... 80 °C										
Permissible temperatures												
Permissible temperatures		medium / electronics / environment / storage: 0 ... 60 °C										
Electrical protection <sup>2</sup>												
Short-circuit protection		permanent										
Reverse polarity protection		no damage, but also no function										
Lightning protection		integrated										
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												
Overvoltage / lightning protection												
Series resistance		9.4 Ω for each positive and negative wire										
Max. leakage current		8 kA (8/20 µsec)										
Overload		4 kV (line-line and line-earth) according to EN 61000-4-5										
Max. rated current		30 mA										
Electrical connection												
Cable with sheath material <sup>3</sup>		TPE-U blue Ø 7.4 mm (suitable for drinking water) PUR black Ø 7.4 mm FEP <sup>4</sup> 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 air 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 others on request										
Seals (O-rings)		FKM; EPDM others on request										
Diaphragm		ceramics Al <sub>2</sub> O <sub>3</sub> 99.9%										
Protection cap		POM-C										
Cable sheath		TPE-U, PUR, FEP										
Miscellaneous												
Current consumption		max. 22 mA										
Weight		approx. 300 g (without cable)										
Ingress protection		IP 68										
CE-conformity		EMC Directive: 2014/30/EU										

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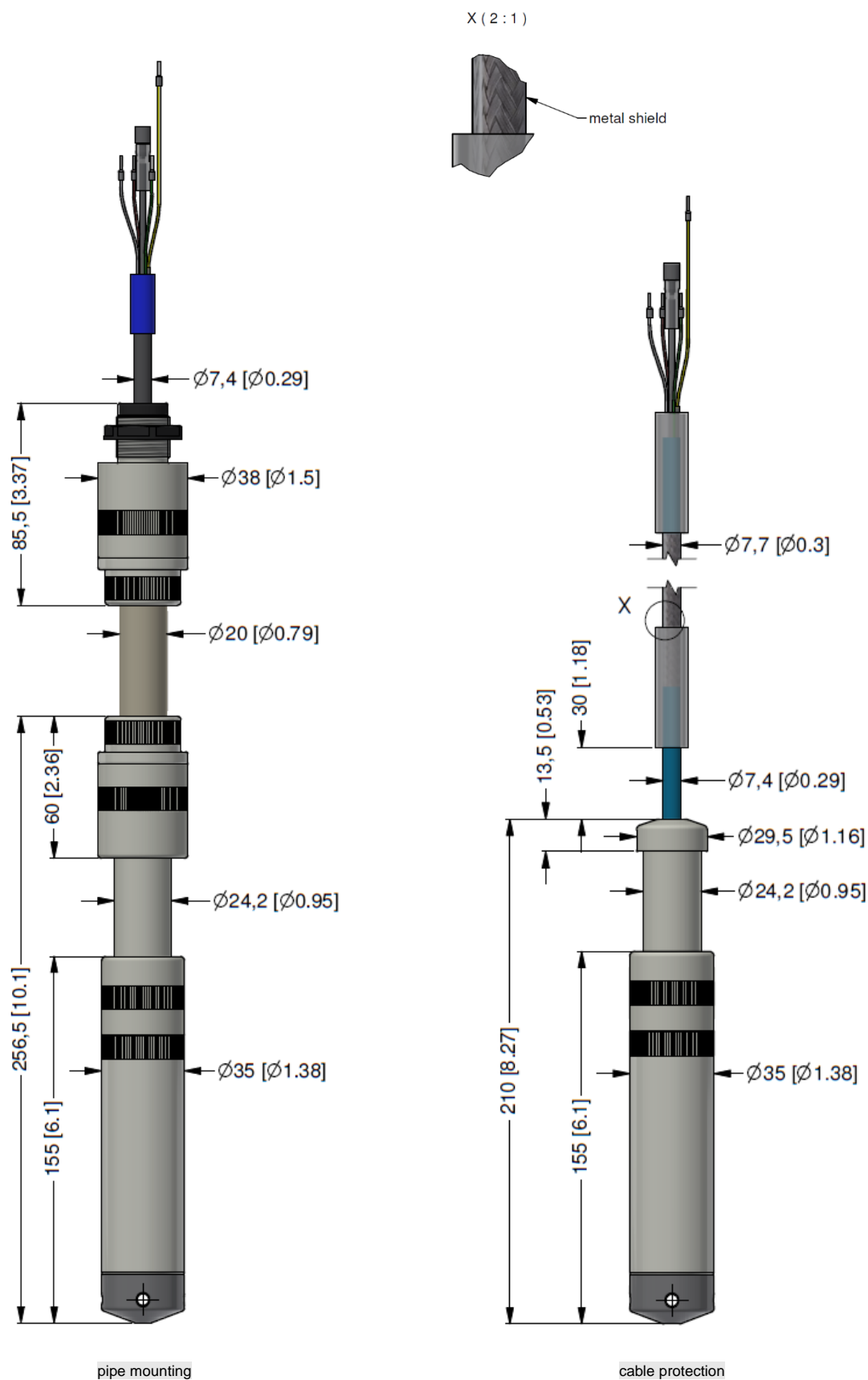
Detachable Plastic Probe

Technical Data

Wiring diagram		Pin configuration		
<div>2-wire-system (current)</div> 	Electrical connection	M12x1 (4-pin)		cable colours (IEC 60757)
				
	A-A	B-B		
	Supply + Supply -	3 4	WH (white) BN (brown)	
Shield	2	GNYE (green-yellow)		

Dimensions (mm / in)			
standard			
<div><div>210 [8.27]</div><div>155 [6.1]</div><div>13,5 [0.53]</div><div>Ø7,4 [Ø0.29]</div><div>Ø29,5 [Ø1.16]</div><div>Ø24,2 [Ø0.95]</div><div>Ø35 [Ø1.38]</div></div>		<div><div>196,5 [7.74]</div><div>108 [4.26]</div></div>	
sensor head and cable detached		protection cap removable	

option



### Accessories

#### Terminal clamp



#### Technical data

Suitable for	all probes with cable Ø 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		
<b>Ordering type</b>	<b>Ordering code</b>	<b>Weight</b>	
Terminal clamp, steel, zinc plated	Z100528	approx. 160 g	
Terminal clamp, stainless steel 1.4301 (304)	Z100527		

## Ordering code LMK 808

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Pressure												
	in bar	4	1	A								
	in mH <sub>2</sub> O	4	1	B								
Input												
	[mH <sub>2</sub> O]	[bar]										
	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-HT					R						
	customer					9						consult
Diaphragm												
	ceramic Al <sub>2</sub> O <sub>3</sub> 99.9 %					C						
	customer					9						consult
Output												
	4 ... 20 mA / 2-wire					1						
	customer					9						consult
Seal												
	FKM					1						
	EPDM					3						
	customer					9						consult
Electrical connection												
	PUR-cable (black, Ø 7.4 mm) <sup>1</sup>					2						
	FEP-cable (black, Ø 7.4 mm) <sup>1</sup>					3						
	TPE-U-cable (blue, Ø 7.4 mm) <sup>2</sup>					F						
	customer					9						consult
Accuracy												
	standard	0.35 % FSO				3						
	option	0.25 % FSO				2						
	customer					9						consult
Cable length												
	in m					9	9	9				
Special version												
	standard					0	0	0				
	prepared for pipe mounting <sup>3</sup>					1	0	6				
	protection hose stainless steel wire mesh					1	0	7				
	customer					9	9	9				consult

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

<sup>2</sup> shielded cable, drinking water suitable, with integrated ventilation tube for atmospheric pressure reference

<sup>3</sup> pipe is not part of the supply