

# LMK 808



## Detachable Plastic Probe

Ceramic Sensor

accuracy according to IEC 60770:  
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 signals

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 elastomer
- ▶ customer specific versions  
e. g. special pressure ranges
- ▶ mounting accessories


The detachable plastic submersible probe LMK 808 was developed for level measurement in water and wastewater. The basis of the probe is an extremely robust, almost maintenance-free capacitive ceramic sensor.

Since the immersion probe etc. for level measurement in river courses, on weir systems or in locks, great emphasis was placed on overvoltage / lightning protection. In addition, the cable can be protected against bites if necessary.

To simplify maintenance work or warehousing, the sensor head can be separated from the cable part and can therefore be replaced if necessary without time-consuming assembly work.

### Preferred areas of use

 Water  
groundwater and level monitoring  
sea water

 Sewage  
waste water treatment  
water recycling

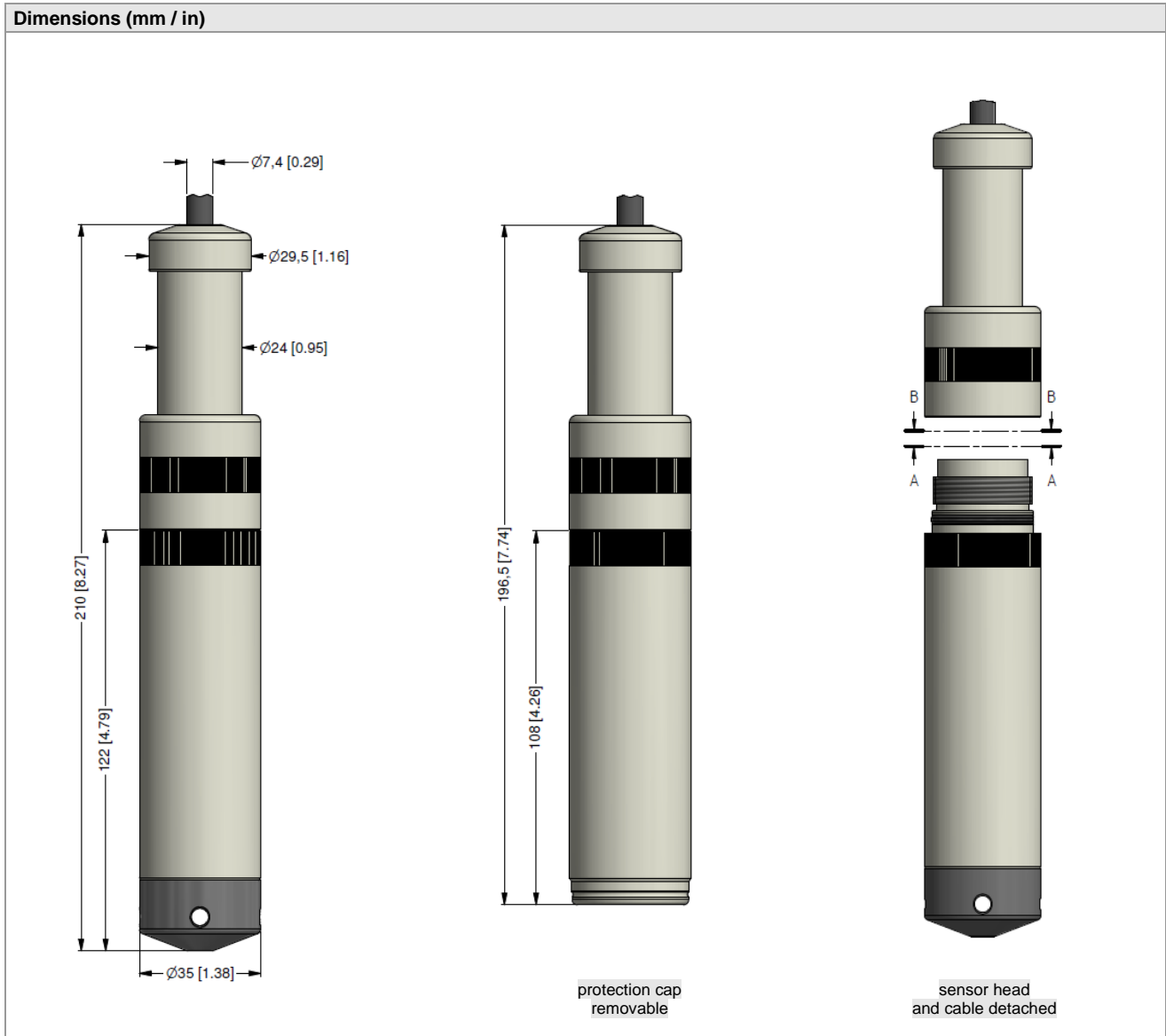


Input pressure range												
Nominal pressure gauge	[bar]	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10
Level	[mH <sub>2</sub> O]	1	1.6	2.5	4	6	10	16	25	40	60	100
Overpressure	[bar]	3	4	5	5	7	7	12	20	20	20	20
Burst pressure ≥	[bar]	4	6	8	8	9	9	18	25	25	30	30
Permissible vacuum	[bar]	-0.2	-0.3	-0.5							-1	
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 others on request											
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 60770 – 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: -25 ... 80 °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) 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												
Materials (media wetted)												
Housing	PP-HT others on request											
Seals (O-rings)	standard: FKM option: EPDM others on request											
Diaphragm	ceramics Al <sub>2</sub> O <sub>3</sub> 99.9%											
Protection cap	POM-C											
Cable sheath	TPE-U											
Miscellaneous												
Current consumption	max. 22 mA											
Weight	approx. 300 g (without cable)											
Ingress protection	IP 68											
CE-conformity	EMC Directive: 2014/30/EU											
Wiring diagram				Pin configuration								
2-wire-system (current)				Electrical connection			M12x1 (4-pin) <sup>6</sup>			cable colours (IEC 60757)		
				Supply +			3			WH (white)		
				Supply -			4			BN (brown)		
				Shield			2			GNYE (green-yellow)		

# LMK 808

Detachable Plastic Probe

Technical Data



## Accessories

### Terminal clamp



### Technical data

Suitable for	all probes with cable $\varnothing$ 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	

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Tel.: +49 (0) 92 35 / 98 11- 0  
 Fax: +49 (0) 92 35 / 98 11- 11

www.bdsensors.de  
 info@bdsensors.de

**BD|SENSORS**  
 pressure measurement

## Ordering code LMK 808

**LMK 808**



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
Seals										
	FKM								1	
	EPDM								3	
	customer								9	consult
Electrical connection										
	TPE-U-cable (blue, Ø 7.4 mm) <sup>1</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
	customer								9	9

<sup>1</sup> shielded cable, drinking water suitable, with integrated ventilation tube for atmospheric pressure reference

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