



# 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-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

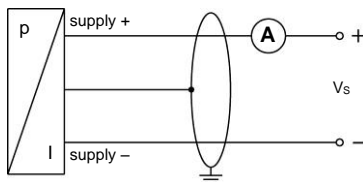
groundwater and level monitoring  
sea water



#### Sewage

waste water treatment  
water recycling

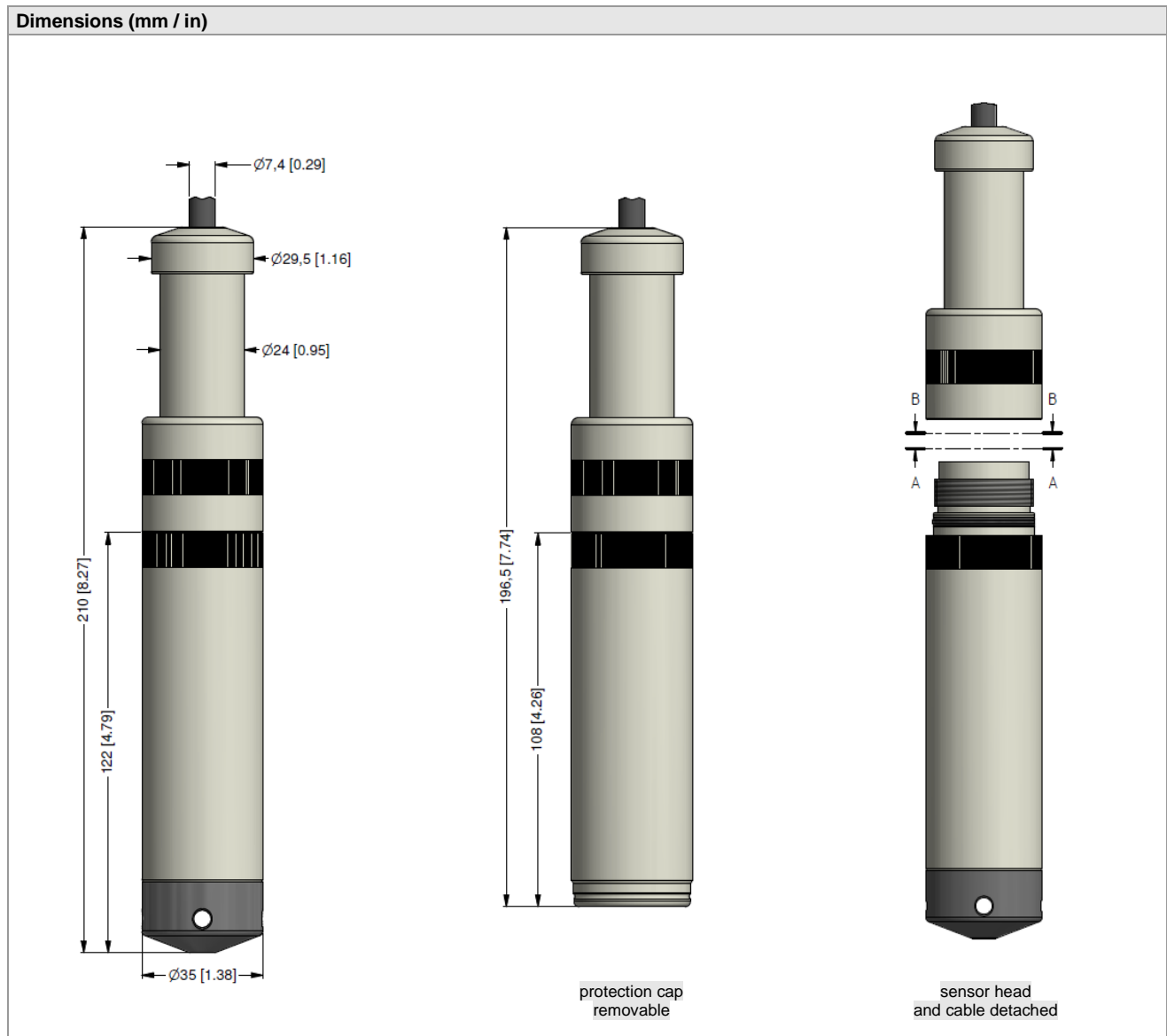


Input pressure range														
Nominal pressure gauge	[bar]	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10		
Level	[mH <sub>2</sub> O]	1	1.6	2.5	4	6	10	16	25	40	60	100		
Overpressure	[bar]	3	4	5	5	7	7	12	20	20	20	20		
Burst pressure ≥	[bar]	4	6	8	8	9	9	18	25	25	30	30		
Permissible vacuum	[bar]	-0.2	-0.3	-0.5				-1						
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 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)		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												
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							
<div>2-wire-system (current)</div> 							Electrical connection		M12x1 (4-pin) <sup>6</sup>				cable colours (IEC 60757)	
									A-A					
									B-B					
							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 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	
Ordering type	Ordering code	Weight
Terminal clamp, steel, zinc plated	Z100528	approx. 160 g
Terminal clamp, stainless steel 1.4301 (304)	Z100527	

LMK808\_E\_080221

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

© 2021 BD SENSORS GmbH – The specifications given in this document represent the state of engineering at the time of publishing. We reserve the right to make modifications to the specifications and materials.

Ordering code LMK 808

## LMK 808

			-					-		-		-		-		-				-		
--	--	--	---	--	--	--	--	---	--	---	--	---	--	---	--	---	--	--	--	---	--	--

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