

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 mH₂O up to 0 ... 100 mH₂O

Output signals

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

Special characteristics

- ▶ diameter 35 mm
- ▶ diaphragm ceramics 99.9% Al₂O₃
- ▶ 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 level probe is used for level measurement i.a. in river courses, on weir systems or in locks, great emphasis was placed on high overvoltage / lightning protection. In addition, the cable can be protected against bites if necessary.

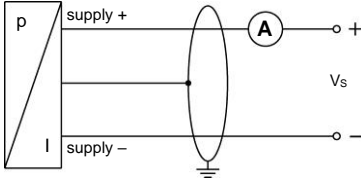
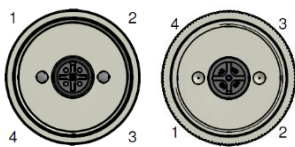
To simplify maintenance work or warehousing, the sensor head can be separated from the cable part and can therefore be replaced if necessary without time-consuming assembly work.

Preferred areas of use

 Water
groundwater and level monitoring
sea water

 Sewage
waste water treatment
water recycling

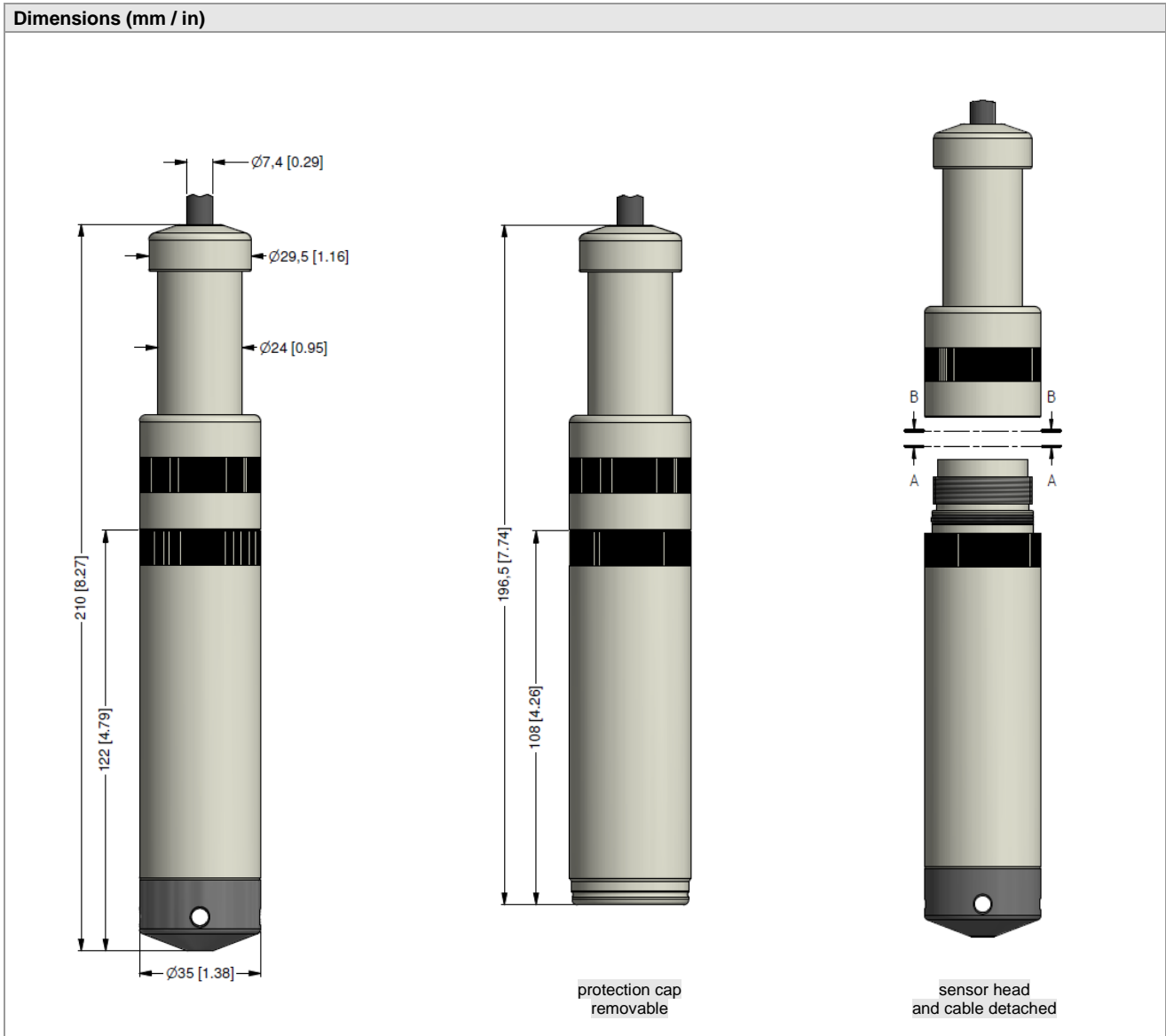


Input pressure range													
Nominal pressure gauge	[bar]	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10	
Level	[mH ₂ O]	1	1.6	2.5	4	6	10	16	25	40	60	100	
Overpressure	[bar]	3	4	5	5	7	7	12	20	20	20	20	
Burst pressure ≥	[bar]	4	6	8	8	9	9	18	25	25	30	30	
Permissible vacuum	[bar]	-0.2	-0.3	-0.5				-1					
Max. ambient pressure (housing): 20 bar													
Output signal / Supply													
2-wire	4 ... 20 mA / V _S = 13 ... 30 V _{DC}												
Performance													
Accuracy ¹	standard: ≤ ± 0.35 % FSO option: ≤ ± 0.25 % FSO others on request												
Permissible load	R _{max} = [(V _S - V _{Smin}) / 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												
¹ 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 ²													
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												
² 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 ³	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												
³ 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 ₂ O ₃ 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) ⁶				cable colours (IEC 60757)				
					A-A B-B								
													
				Supply +				3					
				Supply -				4					
				Shield				2					
								WH (white) BN (brown)					
								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	
Ordering type	Ordering code	Weight
Terminal clamp, steel, zinc plated	Z100528	approx. 160 g
Terminal clamp, stainless steel 1.4301 (304)	Z100527	

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LMK808_E_170322

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

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Pressure																								
	in bar	4	1	A																				
	in mH ₂ O	4	1	B																				
Input		[mH ₂ 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																consult		
Housing																								
	PP-HT																R							
	customer																9	consult						
Diaphragm																								
	ceramic Al ₂ O ₃ 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) ¹																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					
	customer																9	9	9	consult				

¹ shielded cable, drinking water suitable, with integrated ventilation tube for atmospheric pressure reference