



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

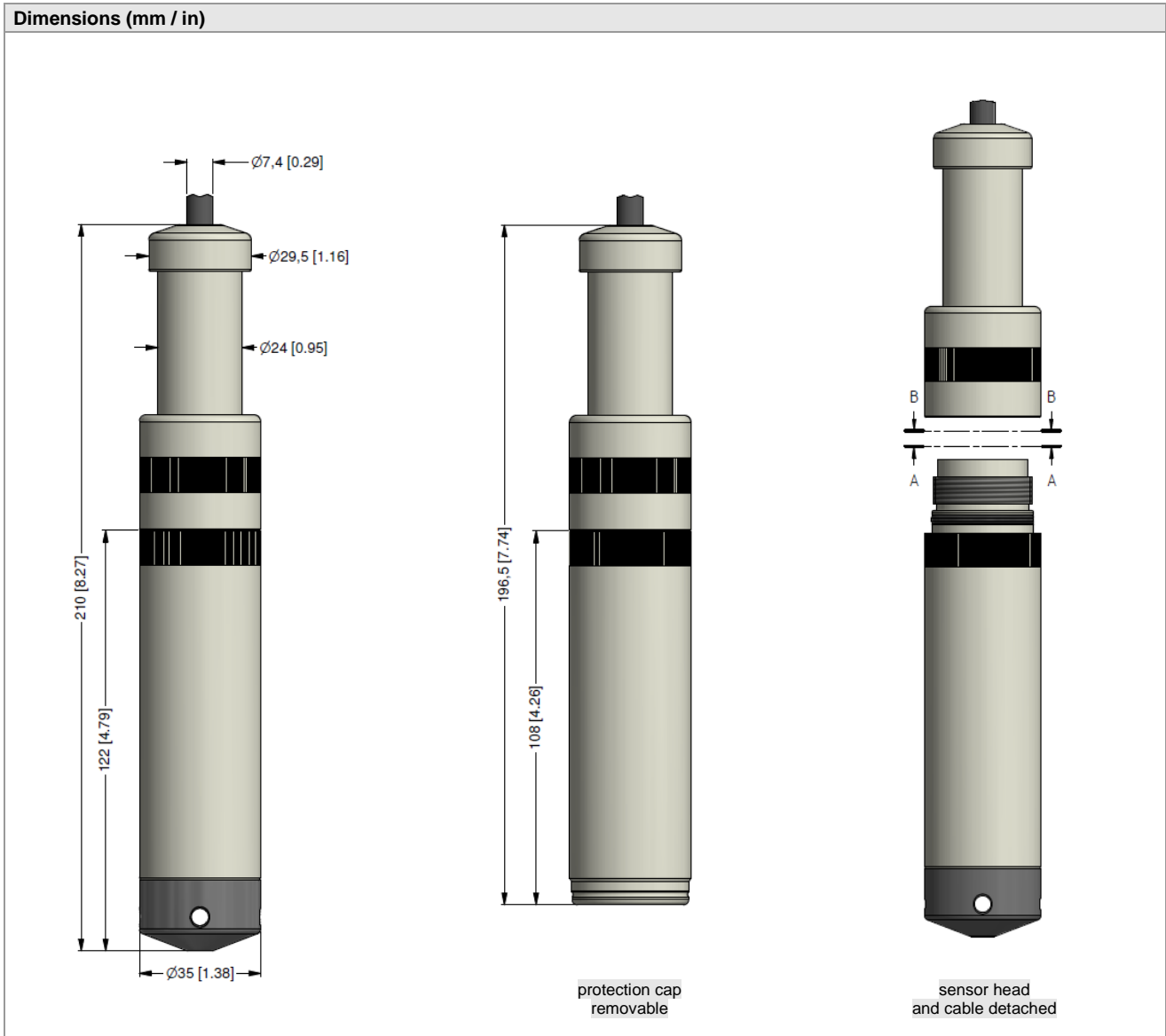


Input pressure range												
Nominal pressure gauge	[bar]	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10
Level	[mH ₂ O]	1	1.6	2.5	4	6	10	16	25	40	60	100
Overpressure	[bar]	3	4	5	5	7	7	12	20	20	20	20
Burst pressure ≥	[bar]	4	6	8	8	9	9	18	25	25	30	30
Permissible vacuum	[bar]	-0.2	-0.3	-0.5				-1				
Max. ambient 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					
					1	2	4	3				
				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	
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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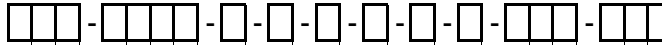
Tel.: +49 (0) 92 35 / 98 11- 0
 Fax: +49 (0) 92 35 / 98 11- 11

www.bdsensors.de
 info@bdsensors.de

BD|SENSORS
 pressure measurement

Ordering code LMK 808

LMK 808



Pressure																				
	in bar	4	1	A																
	in mH 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	9														consult
Housing																				
	PP-HT					R														
	customer					9														
Diaphragm																				
	ceramic Al ₂ O ₃ 99.9 %					C														
	customer					9														
Output																				
	4 ... 20 mA / 2-wire									1										
	customer									9										
Seals																				
	FKM									1										
	EPDM									3										
	customer									9										
Electrical connection																				
	TPE-U-cable (blue, Ø 7.4 mm) ¹										F									
	customer										9									
Accuracy																				
	standard	0.35 % FSO										3								
	option	0.25 % FSO										2								
	customer											9								
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