



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 mH₂O up to 0 ... 100 mH₂O

Output signal

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-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

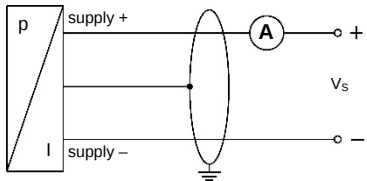
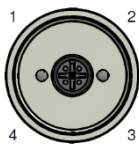
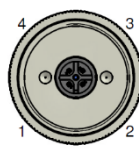


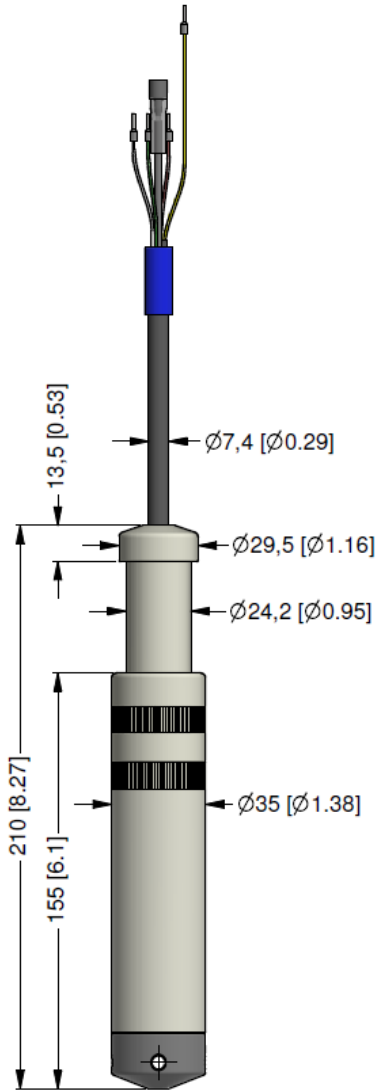
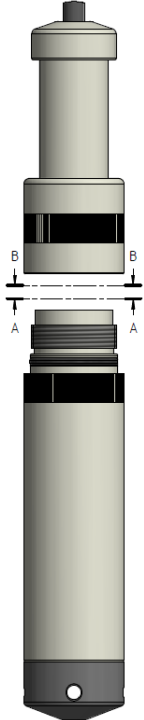
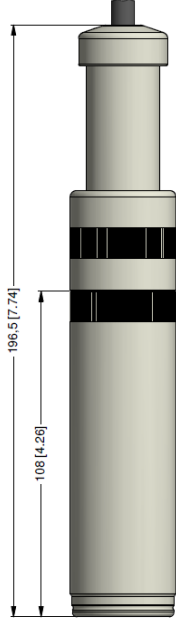
Input pressure range												
Nominal pressure gauge	[bar]	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10
Level	[mH ₂ O]	1	1.6	2.5	4	6	10	16	25	40	60	100
Overpressure	[bar]	3	4	5	5	7	7	12	20	20	20	20
Burst pressure ≥	[bar]	4	6	8	8	9	9	18	25	25	30	30
Permissible vacuum	[bar]	-0.2	-0.3	-0.5				-1				
Max. ambient 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										
Permissible load		R _{max} = [(V _S – V _{S min}) / 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 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 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) PUR black Ø 7.4 mm FEP ⁴ 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										
³ shielded cable with integrated air tube for atmospheric pressure reference												
⁴ 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 ₂ O ₃ 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										

LMK 808

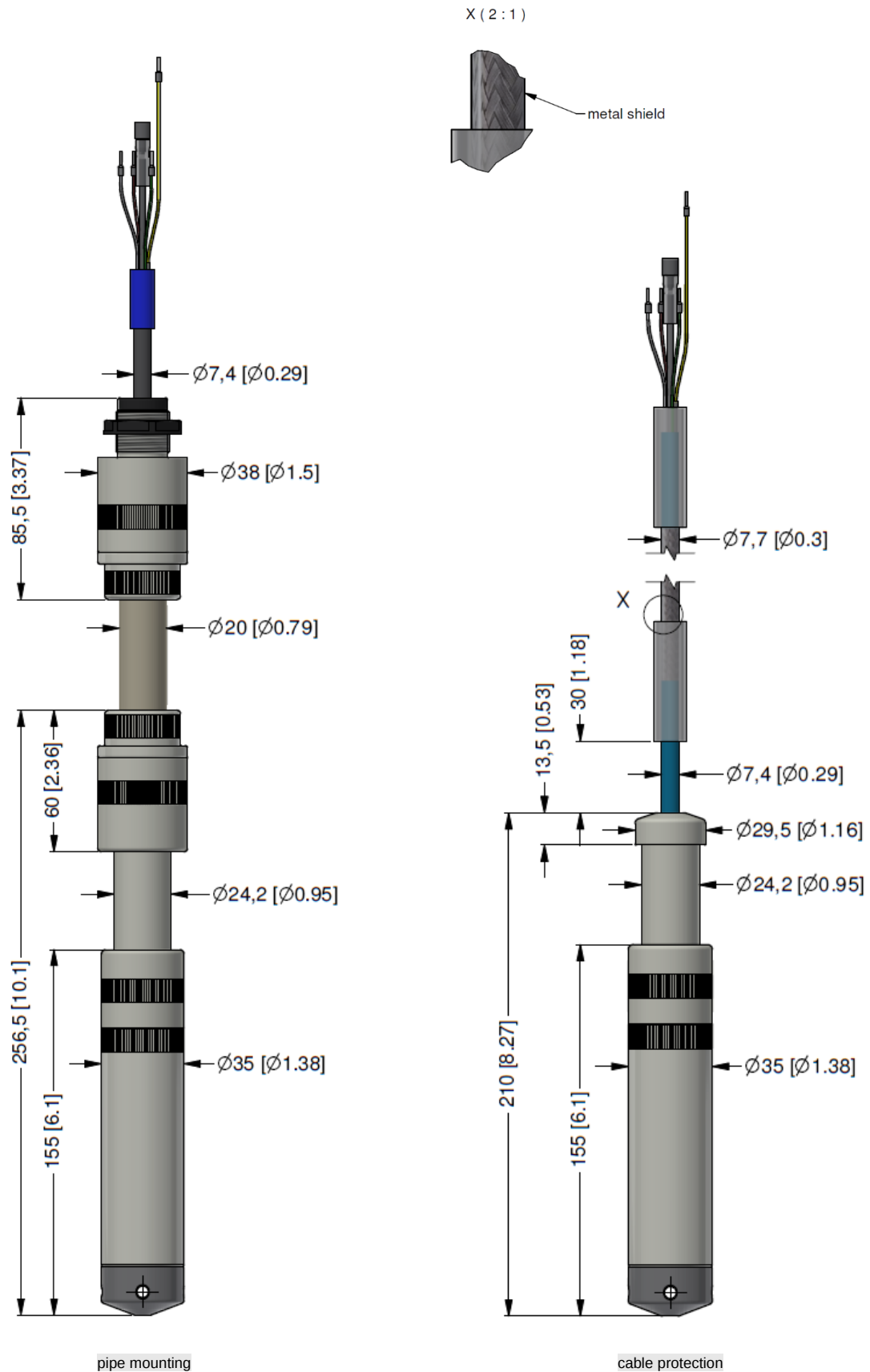
Detachable Plastic Probe

Technical Data

Wiring diagram		Pin configuration		
2-wire-system (current) 	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	
	
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	
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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Ordering code 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	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
Seal													
	FKM					1							
	EPDM					3							
	customer					9							consult
Electrical connection													
	PUR-cable (black, Ø 7.4 mm)	¹				2							
	FEP-cable (black, Ø 7.4 mm)	¹				3							
	TPE-U-cable (blue, Ø 7.4 mm)	²				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	³					1	0	6				
	protection hose stainless steel wire mesh						1	0	7				
	customer						9	9	9				consult

¹ shielded cable with integrated ventilation tube for atmospheric pressure reference

² shielded cable, drinking water suitable, with integrated ventilation tube for atmospheric pressure reference

³ pipe is not part of the supply