

LMK 307



Stainless Steel Probe

Ceramic Sensor

accuracy according to IEC 60770:
0.5 % FSO

Nominal pressure

from 0 ... 4 mH₂O up to 0 ... 250 mH₂O

Output signals

2-wire: 4 ... 20 mA

3-wire: 0 ... 20 mA / 0 ... 10 V

others on request

Special characteristics

- ▶ diameter 27 mm
- ▶ good linearity
- ▶ good long term stability
- ▶ easy handling

Optional versions

- ▶ IS-version
Ex ia = intrinsically safe for gas
and dust
- ▶ SIL 2 (Safety Integrity Level)
according to IEC 61508 / IEC 61511
- ▶ different kinds of cables and elastomers
- ▶ customer specific versions
e. g. special pressure ranges

The level transmitter LMK 307 is designed for continuous level measurement in water or waste water applications. Basic element is a flush mounted ceramic sensor.

Suitable for all fluids which are compatible with media wetted materials. Different cable and elastomer materials can be offered according to the customer-specific operating conditions.

Preferred areas of use are

Water



drinking water system
ground water monitoring
storm water systems

Sewage



waste water treatment
water recycling
dumpsite

Fuel / Oil



fuel storage
tank farm
biogas plants



Input pressure range											
Nominal pressure gauge	[bar]	0.4	0.6	1	1.6	2.5	4	6	10	16	25
Level	[mH ₂ O]	4	6	10	16	25	40	60	100	160	250
Overpressure	[bar]	2	2	2	4	4	10	10	20	40	40
Burst pressure	[bar]	4	4	4	5	5	12	12	25	50	50
Output signal / Supply											
Standard	2-wire:	4 ... 20 mA / V _S = 8 ... 32 V _{DC}					SIL-version: V _S = 14 ... 28 V _{DC}				
Option IS-protection	2-wire:	4 ... 20 mA / V _S = 10 ... 28 V _{DC}					SIL-version: V _S = 14 ... 28 V _{DC}				
Options 3-wire	3-wire:	0 ... 20 mA / V _S = 14 ... 30 V _{DC}									
		0 ... 10 V / V _S = 14 ... 30 V _{DC}									
Performance											
Accuracy		≤ ± 0.5 % FSO									
Permissible load	current 2-wire:	R _{max} = [(V _S - V _{S min}) / 0.02 A] Ω									
	current 3-wire:	R _{max} = 500 Ω									
	voltage 3-wire:	R _{min} = 10 k Ω									
Influence effects	supply:	0.05 % FSO / 10 V									
	load:	0.05 % FSO / kΩ									
Response time		≤ 10 msec									
¹ accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)											
Thermal effects (Offset and Span)											
Thermal error		≤ ± 0.2 % FSO / 10 K in compensated range -25 ... 70 °C									
Permissible temperatures											
Permissible temperatures		Medium/ electronics/ environment/ storage: -20 ... 80 °C *									
<i>*If the cable is intended for use in a smaller temperature range, the use of the probe is limited by this range.</i>											
Electrical protection ²											
Short-circuit protection		permanent									
Reverse polarity protection		no damage, but also no function									
Electromagnetic protection		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											
Electrical connection											
Cable with sheath material ³	PVC (-5 ... 70 °C)	grey	(-25 ... 70 °C in fixed condition)						Ø 7,4 mm		
	PUR (-25 ... 80 °C)	black							Ø 7,4 mm		
	FEP ⁴ (-25 ... 75 °C)	black							Ø 7,4 mm		
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	stainless steel 1.4404 (316L)										
Seals	FKM EPDM										
Diaphragm	ceramics Al ₂ O ₃ 96 %										
Protection cap	POM-C										
Cable sheath	PVC, PUR, FEP, others on request										
Explosion protection (only for 4 ... 20 mA / 2-wire)											
Approvals DX9-LMK 307	IBExU10ATEX1122 X zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T135°C Da										
Safety technical maximum values	U _i = 28 V, I _i = 93 mA, P _i = 660 mW, C _i ≈ 0nF, L _i ≈ 0 μH, the supply connections have an inner capacity of max. 27 nF to the housing										
Ambient temperature range	in zone 0: -20 ... 60 °C with p _{atm} 0.8 bar up to 1.1 bar in zone 1: -20 ... 70 °C										
Connecting cables (by factory)	cable capacitance: signal line/shield also signal line/signal line: 160 pF/m cable inductance: signal line/shield also signal line/signal line: 1μH/m										
Miscellaneous											
Option SIL ⁵ 2 application	according to IEC 61508 / IEC 61511										
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA										
Weight	approx. 250 g (without cable)										
Ingress protection	IP 68										
CE-conformity	EMC Directive: 2014/30/EU										
ATEX Directive	2014/34/EU										
⁵ only for 4...20mA / 2-wire											

Wiring diagrams

2-wire-system (current)

3-wire-system (current / voltage)

Pin configuration

Electrical connection	cable colours (DIN 47100)
Supply +	wh (white)
Supply -	bn (brown)
Signal + (only 3-wire)	gn (green)
Shield	ye/gn (yellow / green)

Dimensions (in mm)

protection cap removable

Accessories

Terminal clamp		
Technical Data		
Suitable for	all probes with cable Ø 5.5 ... 10.5 mm	
Material	standard: steel, zinc plated optionally: stainless steel 1.4301 (304)	
Weight	approx. 160 g	
Ordering type		Ordering code
Terminal clamp, steel, zinc plated		1003440
Terminal clamp, stainless steel 1.4301 (304)		1000278

This data sheet contains product specification. Properties are not guaranteed. Subject to change without notice.

Ordering code LMK 307

3.4.2020

LMK 307

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Pressure																			
in bar		3	8	0															
in H ₂ O		3	8	1															
Input	[mH ₂ O]	[bar]																	
	0 ... 4	0 ... 0,4	4	0	0	0													
	0 ... 6	0 ... 0,6	6	0	0	0													
	0 ... 10	0 ... 1	1	0	0	1													
	0 ... 16	0 ... 1,6	1	6	0	1													
	0 ... 25	0 ... 2,5	2	5	0	1													
	0 ... 40	0 ... 4	4	0	0	1													
	0 ... 60	0 ... 6	6	0	0	1													
	0 ... 100	0 ... 10	1	0	0	2													
	0 ... 160	0 ... 16	1	6	0	2													
	0 ... 250	0 ... 25	2	5	0	2													
Customer			9	9	9														
Housing material																			
Stainless steel 1.4404 (316 L)																			
Customer																			
Diaphragm material																			
Ceramic Al ₂ O ₃ 96 %																			
Customer																			
Output signal																			
4 ... 20 mA / 2-wire																			
0 ... 20 mA / 3-wire																			
0 ... 10 V / 3-wire ¹																			
Intrinsic safety Ex ia 4 ... 20 mA / 2-wire																			
SIL2, 4 ... 20 mA / 2-wire																			
SIL2, Intrinsic safety 4 ... 20 mA / 2-wire																			
Customer																			
Seals																			
Viton (FKM)																			
EPDM																			
Customer																			
Accuracy																			
0,5 %																			
0,5 % including Calibration Certificate																			
Table of measured values for accuracy 0,5 %																			
Customer																			
Electrical connection																			
PVC - cable (grey, Ø 7,4 mm, price for 1 m)																			
PUR - cable (black, Ø 7,4 mm, price for 1 m)																			
FEP - cable with PTFE sheath (black, Ø 7,4 mm, price for 1 m)																			
Customer																			
Cable length																			
in m																			
Special version																			
Standard																			
Customer																			
Accessories for submersible transmitter																			
Terminal clamp - zinc plated																			
Terminal clamp - Stainless Steel 1.4301																			
Mounting screw PG16 - plastic																			



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The company BD SENSORS s.r.o. is certified by TÜV SÜD Czech according to the standard ISO 9001.



0,-...without additional charge

1 - maximum length of PVC cable – 25 m, PUR, FEP, TPE – 40 m

On request...in accordance with the producer

Surcharges for calibration are not subject to any discounts. Subject to change.

This document contains the specification for ordering the product; detailed technical parameters of the product and its possible variants are given in the data sheet.

BD SENSORS reserves the right to change sensor specifications without further notice.



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