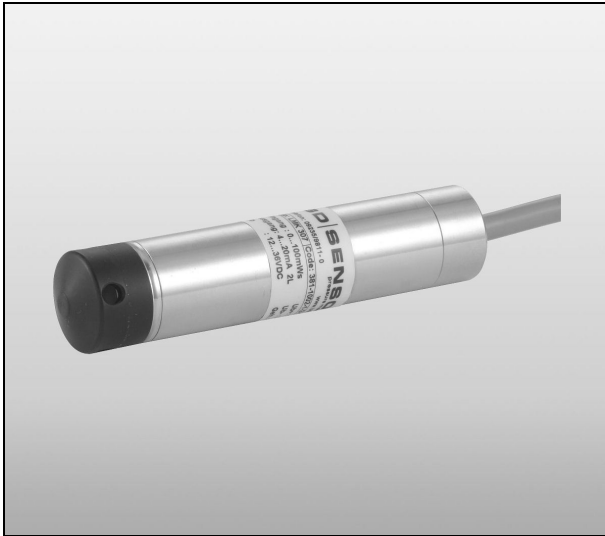


IMPRESS

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Pressure - Temperature - Level - Distance - Control - Indication - Data logging



LMK 307

Stainless Steel Submersible Transmitter with Ceramic Sensor

- ▶ diameter: 27 mm
- ▶ nominal pressure ranges:
0 ... 4 mH₂O up to 0 ... 250 mH₂O
(0 ... 400 mbar up to 0 ... 25 bar)

Level transmitters LMK 307 are designed for continuous level measurement in water or waste water applications. Permissible media are thin fluids which are compatible with the media wetted materials.

Basic element of the stainless steel submersible probes is a flush mounted ceramic sensor. A removable protection cap makes cleaning possible when solid parts of the medium deposit on the sensor.

Different cable and seal materials are available in order to achieve maximum media compatibility. Optionally the submersible probe LMK 307 is suited for explosive area.

Preferred areas of use are:

- ▶ environmental engineering: sewage and water treatment plants
- ▶ depth or level measurement in wells and open waters
- ▶ ground water level measurement
- ▶ level measurement in open tanks, also in most of aggressive media

- ▶ wide range of use
- ▶ easy handling
- ▶ good linearity
- ▶ long term stable
- ▶ **option Ex version zone 0
II 1 G Ex ia IIC T4
(only for 4 ... 20 mA / 2-wire)
TÜV 03 ATEX 2006 X**
- ▶ accuracy:
0.25 % FSO BFSL
(0.5 % FSO IEC 60770)
- ▶ customer specific versions:
 - special pressure ranges
 - other versions on request

Characteristics



LMK 307
Stainless Steel Level Transmitter

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LMK 307

Stainless Steel Level Transmitter

Technical Data

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	
Permissible overpressure [bar]	1	2	3	7	7	12	12	25	50	50	

Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / V _S = 12 ... 36 V _{DC} Ex-protection: V _S = 14 ... 28 V _{DC}
Options	3-wire: 0 ... 20 mA / V _S = 14 ... 36 V _{DC} 0 ... 10 V / V _S = 14 ... 36 V _{DC}

Performance	
Accuracy	IEC 60770 ¹ : ≤ ± 0.5 % FSO BFSL: ≤ ± 0.25 % FSO
Permissible load	current 2-wire: R _{max} = [(V _S - V _{S min}) / 0.02] Ω current 3-wire: R _{max} = 500 Ω voltage 3-wire: R _{min} = 10 kΩ
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / kΩ
Response time	< 10 msec

Thermal effects	
Thermal error for offset and span in compensated range	≤ ± 0.2 % FSO / 10 K -25 ... 70 °C

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
Option Ex-protection only with 4 ... 20 mA / 2-wire DX13-LMK 307	zone 0 ³ : II 1 G Ex ia IIC T4 zone 20: II 1 D Ex tD A20 IP65 T 85°C safety technical maximum values: U _i = 28 V, I _i = 93 mA, P _i = 660 mW, C _i ≤ 1 nF, L _i ≤ 10 μH

Permissible temperatures	
Medium	-10 ... 70 °C Ex-protection: application in zone 0: -10 ... 60 °C application in zone 1 or higher: -10 ... 70 °C
Storage	-25 ... 70 °C

Electrical connection	
Cable with sheath material ⁴	PVC grey PUR black FEP black

¹ accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)

² additional external overvoltage protection unit in terminal box KL 1 or KL 2 with atmospheric pressure reference available on request

³ approved for atmospheric pressure from 0.8 bar up to 1.1 bar

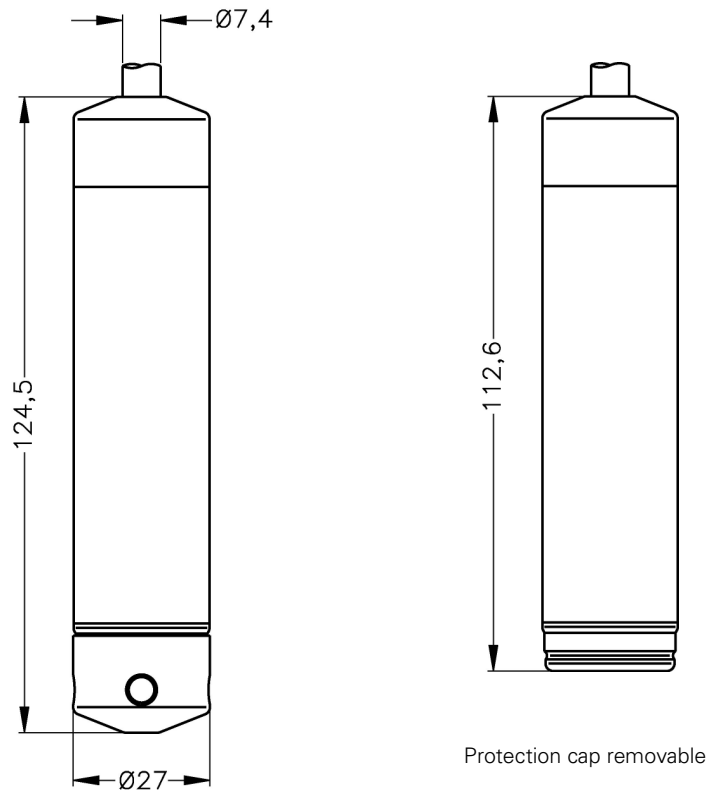
⁴ cable with integrated air tube for atmospheric pressure reference

LMK 307

Stainless Steel Level Transmitter

Technical Data

Dimensions (in mm)



Materials (media wetted)

Housing	stainless steel 1.4571 (316Ti)
Seals	FKM / EPDM
Diaphragm	ceramic Al ₂ O ₃ 96 %
Protection cap	POM
Cable sheath	PVC / PUR / FEP

Miscellaneous

Optionally: SIL 2 application	according to IEC 61508 / IEC 61511
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: 1 µH/m
Current consumption	signal output current: max. 25 mA signal output voltage: max. 7 mA
Weight	approx. 250 g (without cable)
Ingress protection	IP 68

Mounting accessories (not part of delivery)

Screw fitting, stainless steel 1.4571 (316Ti)

Mounting flange for transmitter fixing, stainless steel 1.4571 (316Ti):

DN25 / PN40 (Ø115, 18 thick, 4 drill holes Ø14 at Ø85)

DN50 / PN16 (Ø165, 18 thick, 4 drill holes Ø18 at Ø125)

DN80 / PN16 (Ø200, 20 thick, 8 drill holes Ø18 at Ø160)

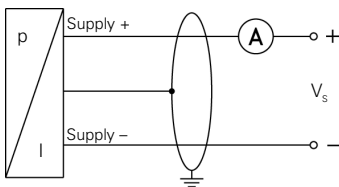
Terminal clamp, stainless steel 1.4301 (304) or steel, zinc plated

Pin configuration

Electrical connection	cable colours (DIN 47100)	
2-wire-system	Supply +	white
	Supply -	brown
	Ground	yellow / green (shield)
3-wire-system	Supply +	white
	Supply -	brown
	Signal +	green
	Ground	yellow / green (shield)

Wiring diagrams

2-wire-system (current)



3-wire-system (current / voltage)

