



LMK 307

Stainless Steel Probe

Ceramic Sensor

accuracy according to IEC 60770:
0.5 % FSO

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Nominal pressure

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

Special characteristics

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

Optional versions

- ▶ IS-protection
- ▶ 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 reservoir

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] | 1 | 2 | 2 | 4 | 4 | 10 | 10 | 20 | 40 | 40 | |
| Burst pressure [bar] | 2 | 4 | 4 | 5 | 5 | 12 | 12 | 25 | 50 | 50 | |
| Output signal / Supply | | | | | | | | | | | |
| Standard | 2-wire: 4 ... 20 mA / V _s = 8 ... 32 V _{DC} | | | | | | | | | | |
| Option IS-protection | 2-wire: 4 ... 20 mA / V _s = 10 ... 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] 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: -10 ... 70 °C storage: -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 | | | | | | | | | | |
| 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 PUR (-10 ... 70 °C) black FEP (-10 ... 70 °C) black | | | | | | | | | | |
| ³ shielded cable with integrated air tube for atmospheric pressure reference | | | | | | | | | | | |
| Materials (media wetted) | | | | | | | | | | | |
| Housing | stainless steel 1.4404 (316L) | | | | | | | | | | |
| Seals | FKM EPDM | | | | | | | | | | |
| Diaphragm | ceramic Al ₂ O ₃ 96 % | | | | | | | | | | |
| Protection cap | POM | | | | | | | | | | |
| Explosion protection (only for 4 ... 20 mA / 2-wire) | | | | | | | | | | | |
| Approval DX19-LMK 307 | IBExU10ATEX1068X zone 0: II 1 G Ex ia IIC T4 Ga zone 20: II 1D Ex iaD 20 T85 °C | | | | | | | | | | |
| Safety technical maximum values | U _i = 28 V, I _i = 93 mA, P _i = 660 mW, C _i ≈ 0nF, L _i ≈ 0 μH | | | | | | | | | | |
| Permissible media temperature | in zone 0: -10 ... 60 °C with p _{atm} 0.8 bar up to 1.1 bar in zone 1: -10 ... 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: 1 μH/m | | | | | | | | | | |
| Miscellaneous | | | | | | | | | | | |
| Option SIL 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: 2004/108/EC | | | | | | | | | | |

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Technical Data

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 | gn/ye (yellow / green) |

Dimensions (in mm)

protection cap removable

Accessories

Terminal clamp

| Technical Data | | |
|--|--|---------------|
| Suitable for | all probes with cable \varnothing 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 | | Z100528 |
| Terminal clamp, stainless steel 1.4301 (304) | | Z100527 |

Website

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