



LMK 807

Plastic Probe for Aggressive Media

Ceramic Sensor

accuracy according to IEC 60770:
0.5 % FSO

Nominal pressure

from 0 ... 4 mH₂O up to 0 ... 100 mH₂O

Output signals

2-wire: 4 ... 20 mA
others on request

Special characteristics

- ▶ diameter 35 mm
- ▶ good long term stability
- ▶ easy handling

Optional versions

- ▶ 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 plastic submersible probe LMK 807 is designed for continuous level measurement for highly polluted and aggressive media.

Basic element of the plastic submersible probe is the flush mounted ceramic sensor, which makes cleaning easier when solid parts of the medium deposit on it. Different cable and elastomer materials are available in order to achieve maximum media compatibility.

Preferred areas of use are

Sewage



waste water treatment
water recycling
dumpsite



Aggressive media

level measurement
in most of acids and lyes



| Input pressure range | | | | | | | | | |
|---|---------------------|-----|-----|----|-----|-----|----|----|-----|
| Nominal pressure gauge | [bar] | 0.4 | 0.6 | 1 | 1.6 | 2.5 | 4 | 6 | 10 |
| Level | [mH ₂ O] | 4 | 6 | 10 | 16 | 25 | 40 | 60 | 100 |
| Overpressure | [bar] | 1 | 2 | 2 | 4 | 4 | 10 | 10 | 20 |
| Burst pressure ≥ | [bar] | 2 | 4 | 4 | 5 | 5 | 12 | 12 | 25 |
| Max. ambient pressure (housing): 20 bar | | | | | | | | | |

| Output signal / Supply | | |
|------------------------|---|---|
| 2-wire | 4 ... 20 mA / V _S = 8 ... 32 V _{DC} | SIL-version: V _S = 14 ... 28 V _{DC} |

| Performance | | |
|-----------------------|---|-----------------------|
| Accuracy ¹ | ≤ ± 0.5 % FSO | |
| 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 | |
| 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 0 ... 70 °C |

| Permissible temperatures | | |
|--------------------------|--|---------------|
| Permissible temperatures | medium / electronic / environment / storage: | -25 ... 80 °C |

| Electrical protection ² | |
|------------------------------------|---|
| Short-circuit protection | permanent |
| Reverse polarity protection | no damage, but also no function |
| 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

| Electrical connection | |
|---|---|
| Cable with sheath material ³ | PVC (-5 ... 70 °C) grey Ø 7.4 mm PUR (-25 ... 70 °C) black Ø 7.4 mm FEP ⁴ (-25 ... 70 °C) 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 ventilation tube for atmospheric pressure reference

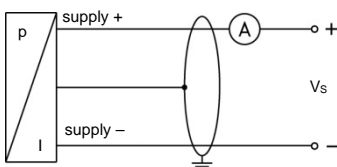
⁴ do not use freely suspended probes with an FEP cable if effects due to highly charging processes are expected

| Materials (media wetted) | |
|--------------------------|--|
| Housing | PP-HT |
| Seals | FKM, EPDM, FFKM |
| Diaphragm | ceramics Al ₂ O ₃ 96 % |
| Protection cap | POM-C |
| Cable sheath | PVC, PUR, FEP |

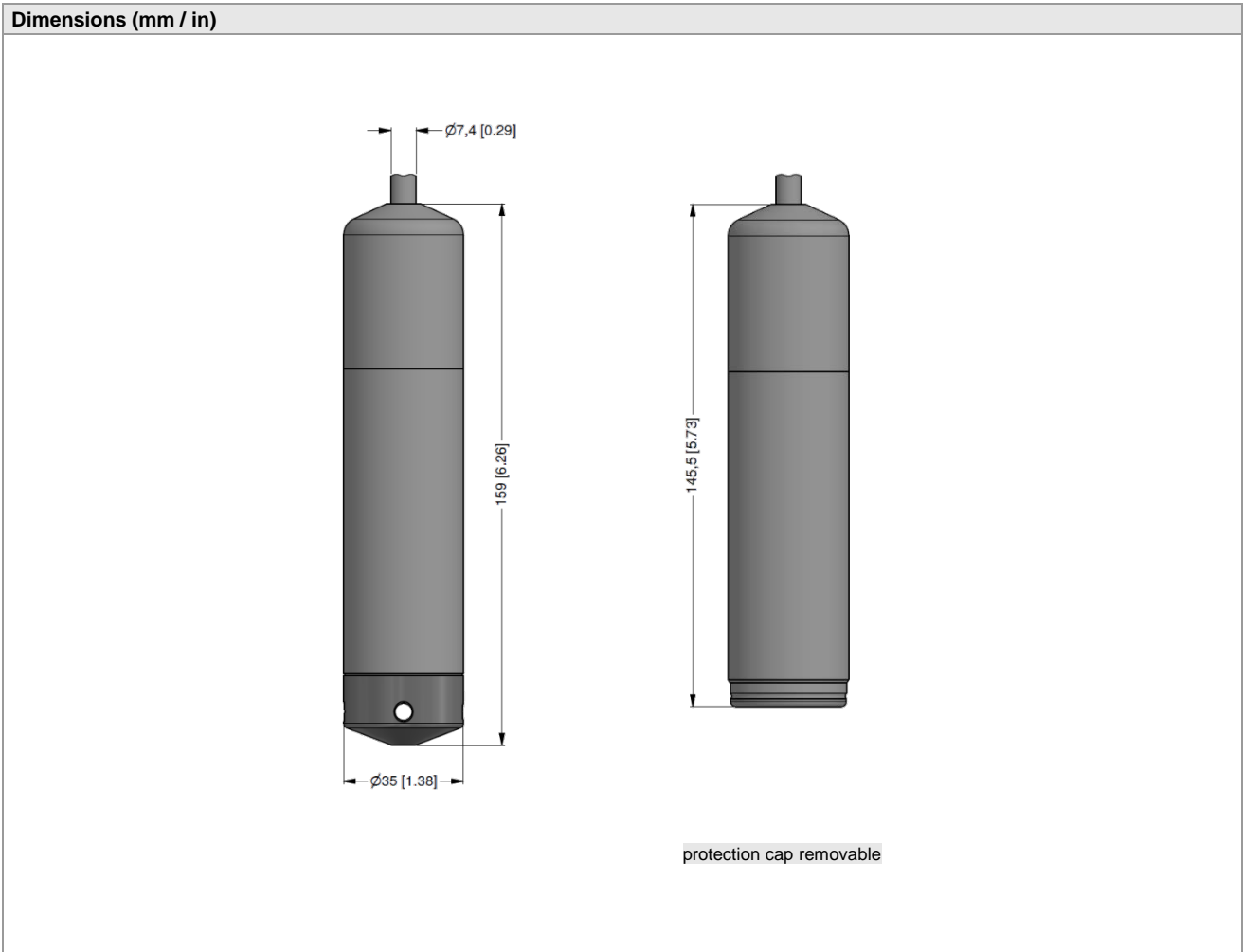
| Miscellaneous | |
|----------------------|------------------------------------|
| Option SIL 2 version | according to IEC 61508 / IEC 61511 |
| Current consumption | max. 25 mA |
| Weight | approx. 200 g (without cable) |
| Ingress protection | IP 68 |
| CE-conformity | EMC Directive: 2014/30/EU |

Wiring diagram

2-wire-system (current)



| Pin configuration | | |
|-----------------------|----------|---------------------------|
| Electrical connection | | cable colours (IEC 60757) |
| | Supply + | WH (white) |
| | Supply - | BN (brown) |
| | Shield | GNYE (green-yellow) |



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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