



LMK 809

Plastic Probe For Aggressive Media

High Purity Ceramic Sensor

accuracy according to IEC 60770:
standard: 0.35 % FSO
option: 0.25 % FSO

Plastic Probe

LMK 809

Nominal pressure

from 0 ... 0.4 mH₂O
 up to 0 ... 100 mH₂O

Special characteristics

- ▶ diameter 45 mm
- ▶ chemical resistance
- ▶ high overpressure resistance
- ▶ especially for tank level measurement of viscous and aggressive media
- ▶ diaphragm 99.9 % Al₂O₃
- ▶ housing material PP or PVDF

Optional versions

- ▶ different kinds of cable and seal materials
- ▶ prepared for mounting with pipe

CE

The plastic submersible probe LMK 809 is designed for continuous level measurement in waste water or in most of aggressive media. Basic element is a capacitive ceramic sensor.

Basic element of the plastic probe is the flush mounted ceramic sensor, which makes cleaning easier when solid parts of the medium deposit on it.

Different cable and seal materials are available in order to achieve maximum media compatibility.

Preferred areas of use are

Sewage

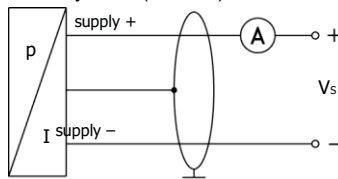
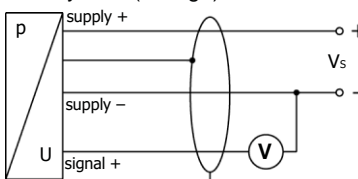


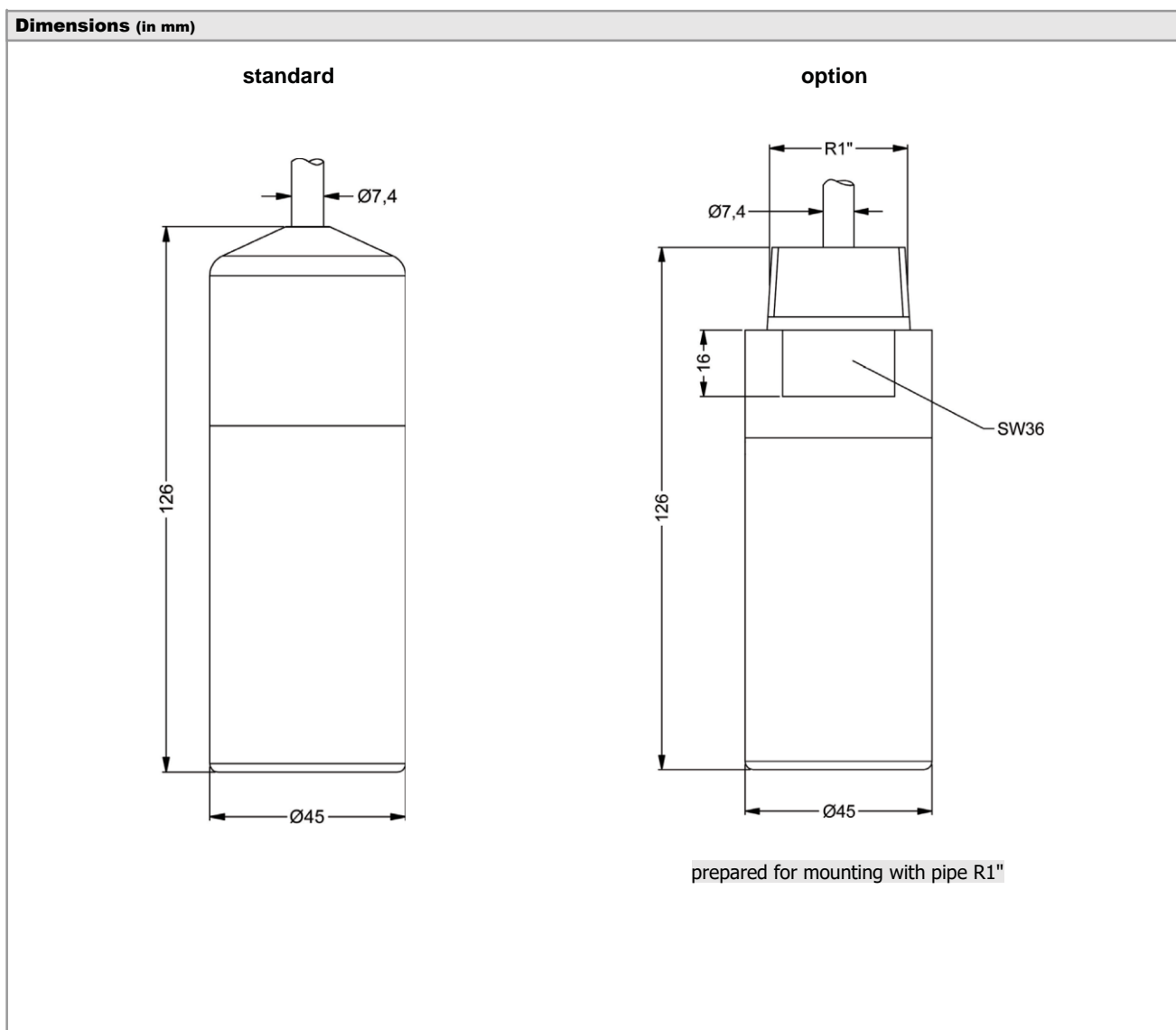
waste water treatment
 water recycling
 dumpsite

Aggressive media



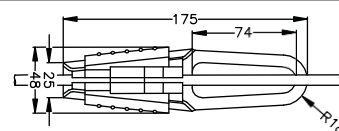
level measurement in most of acids
 and lyes

| Input pressure range | | | | | | | | | | | | | | |
|--|---|------|------|-----|------|------|--|-----|----|-----|-----------------------|----|----|-----|
| Nominal pressure gauge | [bar] | 0.04 | 0.06 | 0.1 | 0.16 | 0.25 | 0.4 | 0.6 | 1 | 1.6 | 2.5 | 4 | 6 | 10 |
| Level | [mH ₂ O] | 0.4 | 0.6 | 1 | 1.6 | 2.5 | 4 | 6 | 10 | 16 | 25 | 40 | 60 | 100 |
| Overpressure | [bar] | 2 | 2 | 4 | 4 | 6 | 6 | 8 | 8 | 15 | 25 | 25 | 35 | 35 |
| Output signal / Supply | | | | | | | | | | | | | | |
| Standard | 2-wire: 4 ... 20 mA / V _s = 9 ... 32 V _{DC} | | | | | | | | | | | | | |
| Option 3-wire | 3-wire: 0 ... 10 V / V _s = 12.5 ... 32 V _{DC} | | | | | | | | | | | | | |
| Performance | | | | | | | | | | | | | | |
| Accuracy ¹ | standard: ≤ ± 0.35 % FSO option: ≤ ± 0.25 % FSO | | | | | | | | | | | | | |
| Permissible load | R _{max} = [(V _s - V _{s min}) / 0.02] ^ | | | | | | | | | | | | | |
| Influence effects | supply: 0.05 % FSO / 10 V load: 0.05 % FSO / k^ | | | | | | | | | | | | | |
| Long term stability | ≤ ± 0.1 % FSO / year | | | | | | | | | | | | | |
| Turn-on time | 700 msec | | | | | | | | | | | | | |
| Mean response time | < 200 msec | | | | | | | | | | measuring rate: 5/sec | | | |
| Max. response time | 380 msec | | | | | | | | | | | | | |
| ¹ accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability) | | | | | | | | | | | | | | |
| Thermal effects (Offset and Span) | | | | | | | | | | | | | | |
| Thermal error | ≤ ± 0.1 % FSO / 10 K in compensated range 0 ... 70 °C | | | | | | | | | | | | | |
| Permissible temperatures | | | | | | | | | | | | | | |
| Permissible temperatures | medium: -25 ... 100 °C electronic / environment: -25 ... 100 °C storage: -25 ... 100 °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 | PUR (-25 ... 70 °C) black FEP (-25 ... 70 °C) black TPE (-25 ... 100 °C) blue | | | | | | | | | | | | | |
| ³ cable with integrated air tube for atmospheric pressure reference | | | | | | | | | | | | | | |
| Materials (media wetted) | | | | | | | | | | | | | | |
| Housing | standard: PP option: PVDF | | | | | | | | | | | | | |
| Seals | FKM / EPDM / FFKM | | | | | | | | | | | | | |
| Diaphragm | ceramics Al ₂ O ₃ 99.9 % | | | | | | | | | | | | | |
| Miscellaneous | | | | | | | | | | | | | | |
| 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 | max. 21 mA | | | | | | | | | | | | | |
| Weight | approx. 320 g (without cable) | | | | | | | | | | | | | |
| Ingress protection | IP 68 | | | | | | | | | | | | | |
| CE-conformity | EMC Directive: 2004/108/EC | | | | | | | | | | | | | |
| Wiring diagram | | | | | | | | | | | | | | |
| 2-wire-system (current) | | | | | | | 3-wire-system (voltage) | | | | | | | |
|  | | | | | | |  | | | | | | | |
| Pin configuration | | | | | | | | | | | | | | |
| Electrical connection | cable colours (DIN 47100) | | | | | | | | | | | | | |
| Supply + | wh (white) | | | | | | | | | | | | | |
| Supply - | bn (brown) | | | | | | | | | | | | | |
| Signal + (only for 3-wire) | (green) | | | | | | | | | | | | | |
| Shield | gn/ye (green / yellow) | | | | | | | | | | | | | |



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 | | Z100528 |
| Terminal clamp, stainless steel 1.4301 (304) | | Z100527 |



Ordering code LMK 809

LMK 809

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|--|--|--|---|--|--|--|--|---|--|---|--|---|--|---|--|---|--|--|--|---|--|--|

[illegible]¹ cable with integrated air tube for atmospheric pressure reference



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