



LMK 858

Separable Plastic Submersible Probe

Ceramic Sensor

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

Nominal pressure

from 0 ... 40 cmH₂O up to 0 ... 100 mH₂O

Output signals

2-wire: 4 ... 20 mA
3-wire: 0 ... 10 V
others on request

Special characteristics

- ▶ diameter 45 mm
- ▶ cable and probe separable
- ▶ chemical resistance
- ▶ housing PVC

Optional versions

- ▶ cable protection via PVC pipe
- ▶ diaphragm 99.9 % Al₂O₃
- ▶ different kinds of cable
- ▶ different kinds of seal materials

The separable plastic submersible probe LMK 858 is designed for level measurement in most aggressive media. Usage in more viscous media as for example sludge is possible because of the semi-flush diaphragm.

In order to facilitate stock-keeping and maintenance the transmitter head is plugged to the cable assembly with a connector and can be changed easily.

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: 0 ... 10 V / V _S = 12.5 ... 32 V _{DC} |

| Performance | | |
|---------------------|--|--|
| Accuracy | standard: option: | IEC 60770 ¹ ≤ ± 0.35 % FSO ≤ ± 0.25 % FSO |
| Permissible load | R _{max} = [(V _S - V _{S,min}) / 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 | |
| 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 ... 50 °C |

| Permissible temperatures | |
|--------------------------|--|
| Permissible temperatures | medium: -10 ... 50 °C electronic / environment: -10 ... 50 °C storage: -10 ... 50 °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

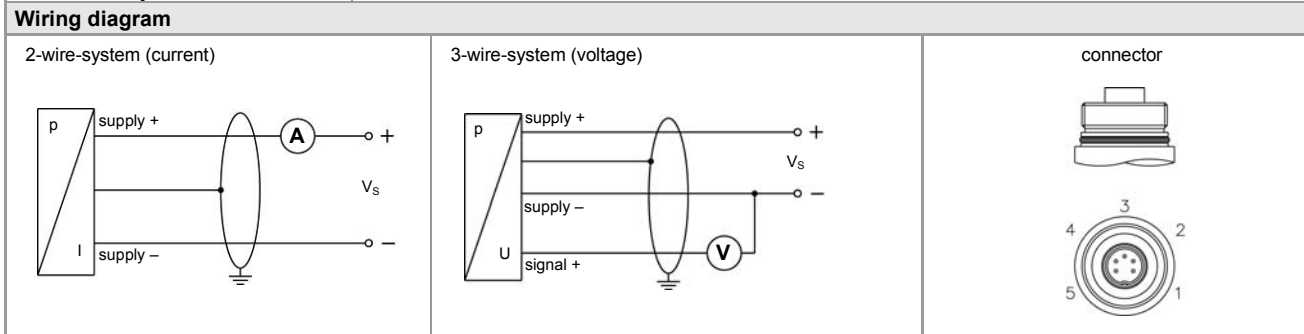
| Electrical connection | |
|---|---|
| Cable with sheath material ³ | PVC (-5 ... 50 °C) grey PUR (-10 ... 50 °C) black FEP ⁴ (-10 ... 50 °C) black |
| Cable protection | standard: without cable protection optional: prepared for mounting of a PVC pipe with diameter 25 mm |

³ 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 | PVC grey |
| Seals | FKM / EPDM / others on request |
| Diaphragm | standard: ceramics Al ₂ O ₃ 96 % option: 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. 25 mA |
| Weight | approx. 400 g (without cable) |
| Ingress protection | IP 68 |
| CE-conformity | EMC Directive: 2014/30/EU |



LMK 858

Plastic Probe

Technical Data

| Pin configuration | | | |
|----------------------------|--|----------|--|
| Electrical connection | Binder series 723 ⁵ (5-pin) | | cable colours (IEC 60757) |
| | 2 - wire | 3 - wire | |
| Supply + | 3 | 3 | wh (white) bn (brown) gn (green) |
| Supply - | 1 | 4 | |
| Signal + (only for 3-wire) | - | 1 | |
| Shield | 5 | 5 | gnye (green-yellow) |

⁵ in separated version

| Dimensions (in mm) | | | |
|--------------------|--|--|--|
| | | | |

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 | |

© 2016 BDI SENSORS GmbH – The specifications given in this document represent the state of engineering at the time of publishing. We reserve the right to make modifications to the specifications and materials.

Ordering code LMK 858

LMK 858

| | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| □ | □ | □ | - | □ | □ | □ | - | □ | - | □ | - | □ | - | □ | - | □ | □ | □ | □ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|

| | | | | | | | | | | | | | | | | | | | |
|------------------------------|--|-------|---|---|---|---|---|---|---|---|---|---|---|---|--|---|---|---|---------|
| Pressure | | | | | | | | | | | | | | | | | | | |
| | in bar | 4 | 1 | 5 | | | | | | | | | | | | | | | |
| | in mH ₂ O | 4 | 1 | 6 | | | | | | | | | | | | | | | |
| Input | [mH ₂ O] | [bar] | | | | | | | | | | | | | | | | | |
| | 0.40 | 0.04 | | | 0 | 4 | 0 | 0 | | | | | | | | | | | |
| | 0.60 | 0.06 | | | 0 | 6 | 0 | 0 | | | | | | | | | | | |
| | 1.0 | 0.10 | | | 1 | 0 | 0 | 0 | | | | | | | | | | | |
| | 1.6 | 0.16 | | | 1 | 6 | 0 | 0 | | | | | | | | | | | |
| | 2.5 | 0.25 | | | 2 | 5 | 0 | 0 | | | | | | | | | | | |
| | 4.0 | 0.40 | | | 4 | 0 | 0 | 0 | | | | | | | | | | | |
| | 6.0 | 0.60 | | | 6 | 0 | 0 | 0 | | | | | | | | | | | |
| | 10 | 1.0 | | | 1 | 0 | 0 | 1 | | | | | | | | | | | |
| | 16 | 1.6 | | | 1 | 6 | 0 | 1 | | | | | | | | | | | |
| | 25 | 2.5 | | | 2 | 5 | 0 | 1 | | | | | | | | | | | |
| | 40 | 4.0 | | | 4 | 0 | 0 | 1 | | | | | | | | | | | |
| | 60 | 6.0 | | | 6 | 0 | 0 | 1 | | | | | | | | | | | |
| | 100 | 10 | | | 1 | 0 | 0 | 2 | | | | | | | | | | | |
| | customer | | | | 9 | 9 | 9 | 9 | | | | | | | | | | | consult |
| Housing | | | | | | | | | | | | | | | | | | | |
| | PVC | | | | | | | A | | | | | | | | | | | |
| | customer | | | | | | | 9 | | | | | | | | | | | consult |
| Diaphragm | | | | | | | | | | | | | | | | | | | |
| | Ceramics Al ₂ O ₃ 96% | | | | | | | 2 | | | | | | | | | | | |
| | Ceramics Al ₂ O ₃ 99.9% | | | | | | | C | | | | | | | | | | | |
| | customer | | | | | | | 9 | | | | | | | | | | | consult |
| Output | | | | | | | | | | | | | | | | | | | |
| | 4 ... 20 mA / 2-wire | | | | | | | | 1 | | | | | | | | | | |
| | 0 ... 10 V / 3-wire | | | | | | | | 3 | | | | | | | | | | |
| | customer | | | | | | | | 9 | | | | | | | | | | consult |
| Seals | | | | | | | | | | | | | | | | | | | |
| | FKM | | | | | | | | | 1 | | | | | | | | | |
| | EPDM | | | | | | | | | 3 | | | | | | | | | |
| | customer | | | | | | | | | 9 | | | | | | | | | consult |
| Electrical connection | | | | | | | | | | | | | | | | | | | |
| | PVC-cable ¹ | | | | | | | | | | 1 | | | | | | | | |
| | PUR-cable ¹ | | | | | | | | | | 2 | | | | | | | | |
| | FEP-cable ¹ | | | | | | | | | | 3 | | | | | | | | |
| | customer | | | | | | | | | | 9 | | | | | | | | consult |
| Accuracy | | | | | | | | | | | | | | | | | | | |
| standard | 0.35 % | | | | | | | | | | 3 | | | | | | | | |
| option | 0.25 % | | | | | | | | | | 2 | | | | | | | | |
| | customer | | | | | | | | | | 9 | | | | | | | | consult |
| Cable length | | | | | | | | | | | | | | | | | | | |
| | in m | | | | | | | | | | | 9 | 9 | 9 | | | | | |
| Special version | | | | | | | | | | | | | | | | | | | |
| | standard | | | | | | | | | | | | | | | 0 | 0 | 0 | |
| | prepared for mounting with PVC pipe ² | | | | | | | | | | | | | | | 1 | 0 | 6 | |
| | customer | | | | | | | | | | | | | | | 9 | 9 | 9 | consult |

¹ cable with integrated air tube for atmospheric pressure reference

² PVC pipe is not part of the supply