



# LMP 307T

Level and Temperature Transmitter

Technical Data

| Input pressure range   |                     |  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
|--|---------------------|--|------|------|--|-----|-----|--|-----|----|--------------------------------|-------------------|-----|-----|--|
| Nominal pressure gauge   | [bar]               | 0.1  | 0.16 | 0.25 | 0.4  | 0.6 | 1   | 1.6  | 2.5 | 4  | 6                              | 10                | 16  | 25  |  |
| Level  | [mH <sub>2</sub> O] | 1  | 1.6  | 2.5  | 4  | 6   | 10  | 16   | 25  | 40 | 60                             | 100               | 160 | 250 |  |
| Overpressure   | [bar]               | 0.5  | 1    | 1    | 2  | 5   | 5   | 10   | 10  | 20 | 40                             | 40                | 80  | 80  |  |
| Burst pressure $\geq$  | [bar]               | 1.5  | 1.5  | 1.5  | 3  | 7.5 | 7.5 | 15   | 15  | 25 | 50                             | 50                | 120 | 120 |  |
| Input temperature range  |                     |  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Temperature measuring range standard:  |                     | 0 ... 30 °C  |      |      | 0 ... 50 °C  |     |     | 0 ... 70 °C  |     |    | others on request <sup>1</sup> |                   |     |     |  |
| <sup>1</sup> min. temperature range: 30°C; max. temperature range: 80°C; min. temperature: -10°C; max. temperature: 70 °C                          |                     |  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Output signal / Supply   |                     |  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| 2-wire (pressure) <sup>2</sup>   |                     | 4 ... 20 mA / V <sub>S</sub> = 10 ... 30 V <sub>DC</sub>   |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| 2-wire (temperature) <sup>2</sup>  |                     | 4 ... 20 mA / V <sub>S</sub> = 10 ... 30 V <sub>DC</sub>   |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| <sup>2</sup> the circuits are galvanically isolated from each other  |                     |  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Performance  |                     |  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Accuracy (pressure) <sup>3</sup>   |                     | standard: nominal pressure < 0.4 bar: $\leq \pm 0.5$ % FSO   |      |      | nominal pressure $\geq 0.4$ bar: $\leq \pm 0.35$ % FSO |     |     | option 1: nominal pressure $\geq 0.4$ bar: $\leq \pm 0.25$ % FSO |     |    |                                |                   |     |     |  |
| Accuracy (temperature) <sup>4</sup>  |                     | $\leq \pm 1$ °C  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Permissible load   |                     | $R_{\max} = [(V_S - V_{S\min}) / 0.02 A] \Omega$   |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Influence effects  |                     | supply: 0.05 % FSO / 10 V  |      |      |  |     |     | load: 0.05 % FSO / k $\Omega$                                    |     |    |                                |                   |     |     |  |
| Long term stability  |                     | $\leq \pm 0.1$ % FSO / year at reference conditions  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Response time  |                     | < 10 msec (for output signal 2-wire (pressure))  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| <sup>3</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)                                   |                     |  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| <sup>4</sup> Pt100 class B; compensation time up to 1 h depending on constant temperature and environmental respectively mass conditions           |                     |  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Thermal effects (Offset and Span)  |                     |  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Nominal pressure P <sub>N</sub>  | [bar]               | < 0.40   |      |      |  |     |     | $\geq 0.40$  |     |    |                                |                   |     |     |  |
| Tolerance band   | [% FSO]             | $\leq \pm 1$   |      |      |  |     |     | $\leq \pm 0.75$  |     |    |                                |                   |     |     |  |
| in compensated range   | [°C]                | 0 ... 70   |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Permissible temperatures   |                     |  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Permissible temperatures   |                     | medium: -10 ... 70 °C  |      |      |  |     |     | storage: -25 ... 70 °C   |     |    |                                |                   |     |     |  |
| Electrical protection <sup>5</sup>   |                     |  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Short-circuit protection   |                     | permanent  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Reverse polarity protection  |                     | no damage, but also no function  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Electromagnetic compatibility  |                     | emission and immunity according to EN 61326  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| <sup>5</sup> 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 <sup>6</sup>  |                     | PVC (-5 ... 70 °C) grey $\varnothing$ 7.4 mm<br>PUR (-10 ... 70 °C) black $\varnothing$ 7.4 mm<br>FEP <sup>7</sup> (-10 ... 70 °C) black $\varnothing$ 7.4 mm<br>TPE-U (-10 ... 70 °C) blue $\varnothing$ 7.4 mm (without/with drinking water certificate) |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Cable capacitance  |                     | signal line/shield also signal line/signal line: 160 pF/m  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Cable inductance   |                     | signal line/shield also signal line/signal line: 1 $\mu$ H/m   |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Bending radius   |                     | static installation: 10-fold cable diameter<br>dynamic application: 20-fold cable diameter   |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| <sup>6</sup> shielded cable with integrated ventilation tube for atmospheric pressure reference  |                     |  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| <sup>7</sup> do not use freely suspended probes with an FEP cable if effects due to highly charging processes are expected                         |                     |  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Materials (media wetted)   |                     |  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Housing  |                     | stainless steel 1.4404 (316L)  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Seals  |                     | FKM<br>EPDM (without/with drinking water certificate)  |      |      |  |     |     |  |     |    |                                | others on request |     |     |  |
| Diaphragm  |                     | stainless steel 1.4435 (316L)  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Protection cap   |                     | POM-C  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Cable sheath   |                     | PVC, PUR, FEP, TPE-U, others on request  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Miscellaneous  |                     |  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Drinking water certificate <sup>8</sup>  |                     | according to DVGW W 270 and UBA KTW<br>(with order the indication "with drinking water certificate" is necessary)  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Current consumption  |                     | max. 25 mA   |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Weight   |                     | approx. 200 g (without cable)  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| Ingress protection   |                     | IP 68  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| CE-conformity  |                     | EMC Directive: 2014/30/EU  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |
| <sup>8</sup> only possible with EPDM seal in combination with TPE-U cable  |                     |  |      |      |  |     |     |  |     |    |                                |                   |     |     |  |

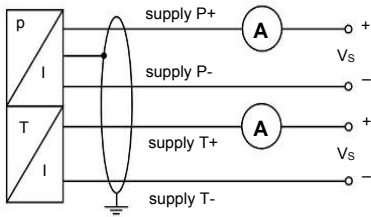
# LMP 307T

Level and Temperature Transmitter

Technical Data

## Wiring diagram

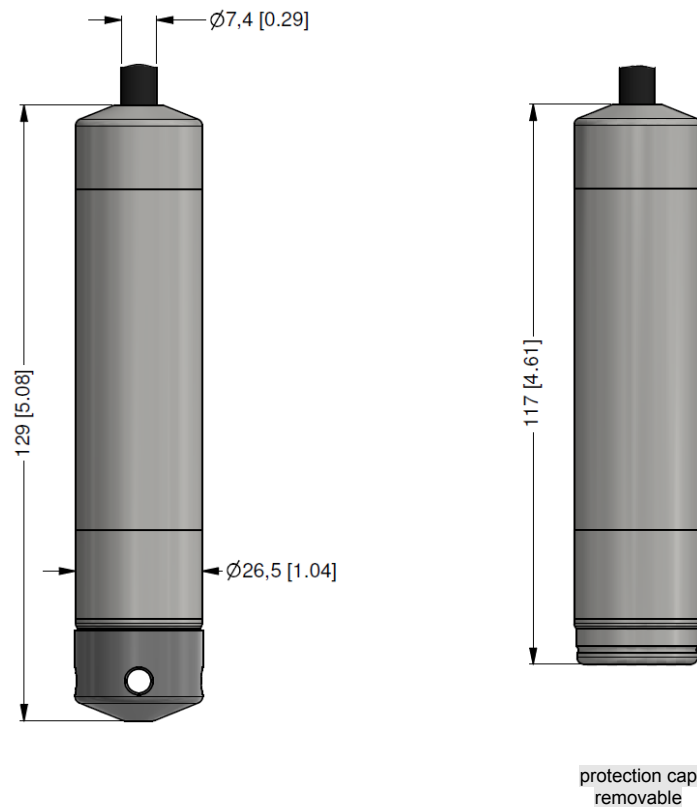
2x2-wire-system (current)



## Pin configuration

| Electrical connection | cable colours (IEC 60757) |
|-----------------------|---------------------------|
| Supply P+             | WH (white)                |
| Supply P-             | BN (brown)                |
| Supply T+             | GY (grey)                 |
| Supply T-             | PK (pink)                 |
| Shield                | GYNE (green-yellow)       |

## Dimensions (mm / in)



**Mounting flange with cable gland**

| dimensions in mm |             |             |             |
|------------------|-------------|-------------|-------------|
| size             | DN25 / PN40 | DN50 / PN40 | DN80 / PN16 |
| b                | 18          | 20          | 20          |
| D                | 115         | 165         | 200         |
| d2               | 14          | 18          | 18          |
| d4               | 68          | 102         | 138         |
| f                | 2           | 3           | 3           |
| k                | 85          | 125         | 160         |
| n                | 4           | 4           | 8           |

**Technical data**

|   |   |               |  |
|---|---|---------------|--|
| Suitable for                                      | all probes  |               |  |
| Flange material                                   | stainless steel 1.4404 (316L)   |               |  |
| Material of cable gland                           | standard: brass, nickel plated      on request: stainless steel 1.4305 (303); plastic |               |  |
| Seal insert                                       | material: TPE (ingress protection IP 68)  |               |  |
| Hole pattern                                      | according to DIN 2507   |               |  |
| <b>Ordering type</b>                              | <b>Ordering code</b>  | <b>Weight</b> |  |
| DN25 / PN40 with cable gland brass, nickel plated | ZMF2540   | 1.4 kg        |  |
| DN50 / PN40 with cable gland brass, nickel plated | ZMF5040   | 3.2 kg        |  |
| DN80 / PN16 with cable gland brass, nickel plated | ZMF8016   | 4.8 kg        |  |

**Terminal clamp**

**Technical data**

|   |  |               |  |
|---|--|---------------|--|
| Suitable for                                    | all probes with cable Ø 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  |               |  |
| <b>Ordering type</b>                            | <b>Ordering code</b>   | <b>Weight</b> |  |
| Terminal clamp, steel, zinc plated              | Z100528  | approx. 160 g |  |
| Terminal clamp, stainless steel 1.4301 (304)    | Z100527  |               |  |

**Display program**

- CIT 200** Process display with LED display
- CIT 250** Process display with LED display and contacts
- CIT 300** Process display with LED display, contacts and analogue output
- CIT 350** Process display with LED display, bargraph, contacts and analogue output
- CIT 400** Process display with LED display, contacts, analogue output and Ex-approval
- CIT 600** Multichannel process display with graphics-capable LC display
- CIT 650** Multichannel process display with graphics-capable LC display and datalogger
- CIT 700 / CIT 750** Multichannel process display with graphics-capable TFT monitor, touchscreen and contacts
- PA 440** Field display with 4-digit LC display

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