

## **LMP 307T**



# **Level and Temperature Transmitter**

Stainless Steel Sensor

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

#### Nominal pressure / nominal temperature

from 0 ... 1 mH $_2$ O up to 0 ... 250 mH $_2$ O from 0 ... 30 °C up to 0 ... 70 °C others on request

#### **Output signals**

2-wire: 4 ... 20 mA (pressure)

2-wire: 4 ... 20 mA (temperature)

#### **Special characteristics**

- ▶ diameter 26,5 mm
- separate output signals
   for pressure and temperature ranges
- easy handling
- low maintenance and wiring costs

#### **Optional versions**

- drinking water certificate according to DVGW and KTW
- different kinds of cables
- different kinds of seal materials
- customer specific versions

The stainless steel submersible probe LMP 307T, has been developed for continuous level and temperature measurement in water and in clean to lightly-soiled liquids.

The advantage: simultaneous recording of level and temperature with separate independent signal amplification. The maintenance and wiring costs are considerably reduced.

In addition to classical signal processing of the level, an additional signal circuit independent of the level which converts the temperature signal into a 4 ... 20 mA analogue signal in 2-wire technology is provided.

Typical application areas are, for example, drinking water purification, monitoring of rainwater overflow basins and river courses, in addition to level measurement in containers or tank batteries.

#### Preferred areas of use are



Water / filtrated sewage e.g. drinking water system

water recycling



Fuel / Oil e.g. tank farm







Stainless Steel Probe

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 >	[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 1			
<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						
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>		· ·					
		nominal pressure ≥ 0.4 bar: ≤ ± 0.35 % FSO  option 1: nominal pressure ≥ 0.4 bar: ≤ ± 0.25 % FSO					
Accuracy (temperature) 4	≤±1°C	53341C = 0.4 bai.	2 1 0.23 70 1 00				
Permissible load		0.00.41.0					
	$R_{\text{max}} = [(V_S - V_S \text{ min}) / (V_S - V_S \text{ min})] / (V_S - V_S \text{ min})$						
Influence effects	supply: 0.05 % FS0						
Long term stability	≤ ± 0.1 % FSO / year a						
Response time	< 10 ms (for output sign	nal 2-wire (pressure))					
<sup>3</sup> accuracy according to IEC 60770 –							
<sup>4</sup> Pt 100 class B; compensation time	· · · · ·	emperature and environment	tal respectively mass condition	าร			
Thermal effects (Offset and Spa	- 1						
		0.40		0.40			
Tolerance band [% FS		± 1		0.75			
	°C]	0.	70				
Permissible temperatures							
Permissible temperatures	medium: -10 70 °C storage: -25 70 °C						
Electrical protection 5							
Short-circuit protection	permanent						
Reverse polarity protection	no damage, but also no	function					
Electromagnetic compatibility	emission and immunity						
<sup>5</sup> additional external overvoltage pro	tection unit in terminal box KL 1 c	or KL 2 with atmospheric pres	sure reference available on re	quest			
Electrical connection	1						
Cable with sheath material <sup>6</sup>	PVC (-5 70 °C						
	PUR (-10 70 ° FEP <sup>7</sup> (-10 70 °						
		C) blue (without/with drin	king water certificate)	others on request			
<sup>6</sup> cable with integrated air tube for at	· · · · · · · · · · · · · · · · · · ·	o, sido (Midiode Willi dilli	g water continuate)	Saisio on roquost			
<sup>7</sup> do not use freely suspended probes		to highly charging processes	are expected				
Materials (media wetted)							
Housing	stainless steel 1.4404 (	316L)					
Seals	FKM EPDM (without/with drin	nking water certificate)		others on request			
Diaphragm	stainless steel 1.4435 (			,			
Protection cap	POM-C						
Miscellaneous							
Drinking water certificate 8	according to DVGW W (with order the indication	according to DVGW W 270 and UBA KTW (with order the indication "with drinking water certificate" is necessary)					
Connecting cables (by factory)	cable capacitance: si	cable capacitance: signal line/shield also signal line/signal line: 160 pF/m					
Current consumption							
Weight	<u> </u>	signal output current: max. 25 mA / signal output voltage: max. 7 mA					
-	IP 68	approx. 200 g (without cable)					
Ingress protection		EMC Directive: 2014/30/EU					
CE-conformity		JI L U					
8 only possible with EPDM seal in co	monation with TPE-U cable						

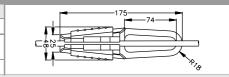
### Wiring diagram 2x2-wire-system (current) supply P+ supply Psupply Tsupply T-Pin configuration Electrical connection cable colours (IEC 60757) Supply P+ Supply P– wh (white) bn (brown) Supply T+ Supply T– gy (gray) pk (pink) Shield gnye (green-yellow) Dimensions (in mm) Ø7,4 - Ø26,5 129

#### Stainless Steel Probe

Mounting flange with cable gland					
Technical data					
Suitable for	all probes	cable gland M16x1.5 with			
Flange material	stainless steel 1.4404 (316L)	seal insert (for cable-∅ 4 11 mm)			
Material of cable gland	standard: brass, nickel plated on request: stainless steel 1.4305 (303				
Seal insert	material: TPE (ingress protection IP 68)	nxØd			
Hole pattern	according to DIN 2507				
Version	Size (in mm)	Weight	۵ ا		
DN25 / PN40	D = 115, k = 85, b = 18, n = 4, d= 14	1.4 kg			
DN50 / PN40	D = 165, k = 125, b = 20, n = 4, d= 18	3.2 kg	Øk		
DN80 / PN16	D = 200, k = 160, b = 20, n = 8, d= 18	4.8 kg	ØD		
Ordering type		Ordering code			
DN25 / PN40 with cable gland brass, nickel plated		ZMF2540			
DN50 / PN40 with cable	gland brass, nickel plated	ZMF5040			
DN80 / PN16 with cable	gland brass, nickel plated	ZMF8016			

#### Terminal clamp

Technical data	
Suitable for	all probes with cable ∅ 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, zin	c plated	Z100528
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

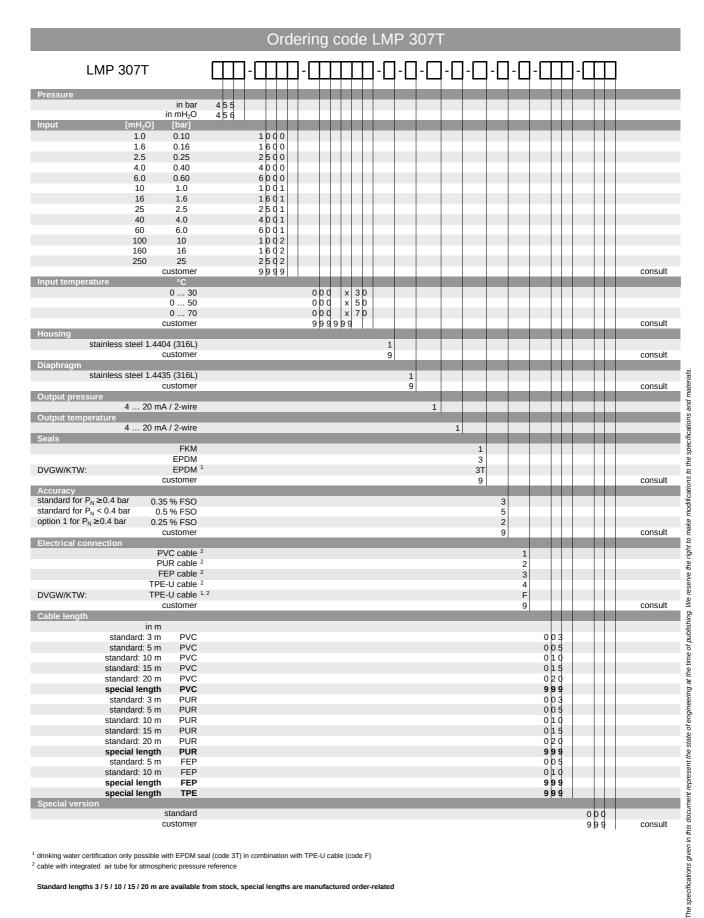
#### **CIT 700**

Multichannel process display with graphics-capable TFT monitor, touchscreen and contacts

#### PA 440

Field display with 4-digit LC display





<sup>1</sup> drinking water certification only possible with EPDM seal (code 3T) in combination with TPE-U cable (code F)

Standard lengths 3 / 5 / 10 / 15 / 20 m are available from stock, special lengths are manufactured order-related

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<sup>&</sup>lt;sup>2</sup> cable with integrated air tube for atmospheric pressure reference