



# LMP 307

## Stainless Steel Submersible Transmitter

- ▶ piezoresistive stainless steel sensor
- ▶ diameter 27 mm
- ▶ level measurement in water and clean to slightly contaminated media
- ▶ nominal pressure ranges  
0 ... 40 mbar up to 0 ... 25 bar  
(0 ... 40 cmWC up to 0 ... 250 mWC)

The submersible level transmitter LMP 307 has been designed for continuous fluid level measurement in water and clean to slightly contaminated media.

Housing material is 1.4571 (316Ti); the sensor diaphragm is made of 1.4435 (316L). Standard sealing material is FKM; other materials are available on request.

The high quality stainless steel sensor allows the LMP 307 excellent measuring performance.

With the LMP 307 a submersible level transmitter for a wide range of applications is available to the market.

Preferred areas of use are:

- ▶ environmental engineering: water supply, sewage treatment
- ▶ depth or level measurement in wells and open waters
- ▶ ground water level measurement
- ▶ level monitoring in open tanks

Characteristics

- ▶ small thermal effect
- ▶ excellent linearity
- ▶ excellent long term stability
- ▶ accuracy according to IEC 60770: 0.35 % FSO  
option: 0.25 % FSO
- ▶ option Ex: II 2 G EEx ia IIC T4  
(only for 4 ... 20 mA / 2-wire)  
(TÜV 03 ATEX 2006 X)
- ▶ customer specific versions:  
- special pressure ranges



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### 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	16	25
Level [mWC]	0.4	0.6	1	1.6	2.5	4	6	10	16	25	40	60	100	160	250
Permissible overpressure [bar]	0.2	0.2	0.5	0.5	1	1	3	3	6	6	20	20	20	60	60

### Output signal / Supply

Standard	2-wire: 4 ... 20 mA / $V_s = 12 \dots 36 V_{DC}$	Ex-version: $V_s = 14 \dots 28 V_{DC}$
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### Performance

Accuracy <sup>1</sup>	standard: $\leq \pm 0.35 \% \text{ FSO}$ nominal pressure $\leq 0.4 \text{ bar}$ : $\leq \pm 0.5 \% \text{ FSO}$ option (nominal pressure $> 0.4 \text{ bar}$ ): $\leq \pm 0.25 \% \text{ FSO}$
Permissible load	$R_{max} = [(V_s - V_{s min}) / 0.02] \Omega$
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / k $\Omega$
Long term stability	$\leq \pm 0.1 \% \text{ FSO} / \text{year}$

### Thermal errors (Offset and Span)

Nominal pressure $P_N$	$\leq 0.1 \text{ bar}$	$\leq 0.25 \text{ bar}$	$\leq 0.4 \text{ bar}$	$\leq 1 \text{ bar}$	$> 1 \text{ bar}$
Tolerance band	$\leq \pm 2 \% \text{ FSO}$	$\leq \pm 1.5 \% \text{ FSO}$	$\leq \pm 1 \% \text{ FSO}$	$\leq \pm 1 \% \text{ FSO}$	$\leq \pm 0.75 \% \text{ FSO}$
TC, average [10 % FSO / 10 K]	$\pm 0.3$	$\pm 0.2$	$\pm 0.14$	$\pm 0.1$	$\pm 0.07$
in compensated range	0 ... 50 °C			0 ... 70 °C	

### Electrical protection <sup>2</sup>

Insulation resistance	$> 100 \text{ M}\Omega$
Reverse polarity protection	no damage, but also no function
Electromagnetic compatibility	emission and immunity according to EN 61326
Ingress protection	IP 68
Option Ex-protection DX13-LMP 307	II 2 G EEx ia IIC T4 (only with 4 ... 20 mA / 2-wire) safety technical maximum values: $V_i = 28 \text{ V}$ , $I_i = 93 \text{ mA}$ , $P_i = 660 \text{ mW}$

### Permissible temperatures

Medium	-10 ... 70 °C
Storage	-25 ... 70 °C

<sup>1</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)

<sup>2</sup> additional external overvoltage protection unit in terminal box KL1 or KL2 with atmospheric pressure reference available on request (please ask for data sheet)

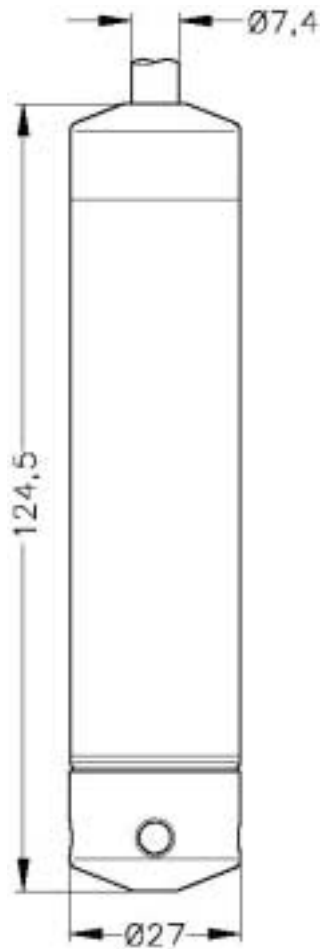
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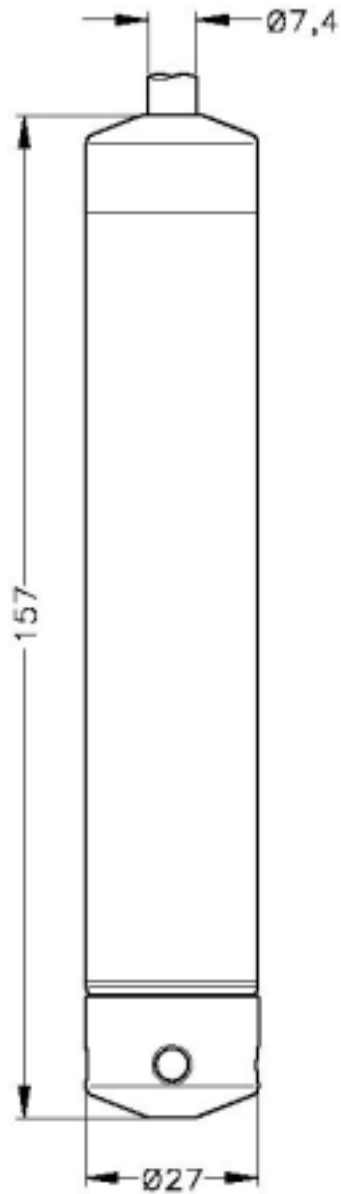
Technical Data

## Dimensions

### Standard



### Option



Version with Ex-protection

## Electrical connection

Cable with sheath material <sup>3</sup>	PVC grey PUR black FEP black
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<sup>3</sup> cable with integrated air tube for atmospheric pressure reference

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Technical Data

## Materials

Housing	stainless steel 1.4571 (316Ti)
Seals	FKM
Diaphragm	stainless steel 1.4435 (316L)
Cable sheath	PVC / PUR / FEP

## Miscellaneous

Current consumption	max. 25 mA
Weight	approx. 200 g (without cable)

## Mounting accessories (not included in delivery)

Screw fitting, stainless steel 1.4571 (316Ti)

Mounting flange for transmitter fixing, stainless steel 1.4571 (316Ti):

DN25 / PN25 (Ø115, 18 thick, 4 drill holes Ø14 at Ø85)

DN50 / PN16 (Ø165, 18 thick, 4 drill holes Ø18 at Ø125)

DN80 / PN16 (Ø200, 20 thick, 8 drill holes Ø18 at Ø160)

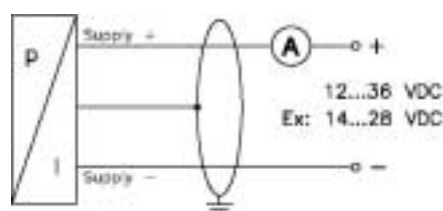
Terminal clamp, stainless steel 1.4301 (304) or steel, zinc plated

## Pin configuration

Electrical connection	cable colours (DIN 47100)	
2-wire-system	Supply +	white
	Supply -	brown
	Ground	yellow / black

## Wiring diagram

2-wire-system (current)



This data sheet contains product specification; properties are not guaranteed. Subject to change without notice.

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pressure measurement