



LMP 307 i

Stainless Steel Submersible Transmitter

- ▶ piezoresistive stainless steel sensor
- ▶ diameter 27 mm
- ▶ precise level measurement
- ▶ integrated microprocessor
- ▶ 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 i 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.

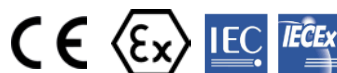
The LMP 307 i features high accuracy of 0.1 % FSO and a very small thermal error. Basis is a digital electronics with microprocessor and 16-bit A/D converter. Thus it's possible to compensate the sensor specific errors as non-linearity and thermal errors actively resulting in a level transmitter with excellent measuring properties at an unusual competitive price.

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

- ▶ small thermal effect
- ▶ excellent linearity
- ▶ excellent long term stability
- ▶ accuracy according to IEC 60770: 0.1 % FSO
- ▶ option Ex: IS-version = intrinsically safe for gases and dusts

Characteristics



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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 ¹	standard: $\leq \pm 0.1 \%$ FSO nominal pressure < 0.1 bar: $\leq \pm 0.2 \%$ FSO	(BFSL: $\leq \pm 0.05 \%$ FSO) (BFSL: $\leq \pm 0.1 \%$ 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 Ω	
Long term stability	$\leq \pm 0.1 \%$ FSO / year	

Thermal errors (Offset and Span)

Tolerance band	$\leq \pm 0.2 \%$ FSO
TC, average	$\pm 0.02 \%$ FSO / 10 K
in compensated range	-20 ... 80 °C

Electrical protection ²

Insulation resistance	> 100 M Ω	
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 DX19-LMP 307i	IBExU 10 ATEX 1068 X / zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T 85°C Da	IECEX IBE 12.0027X

Permissible temperatures

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

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

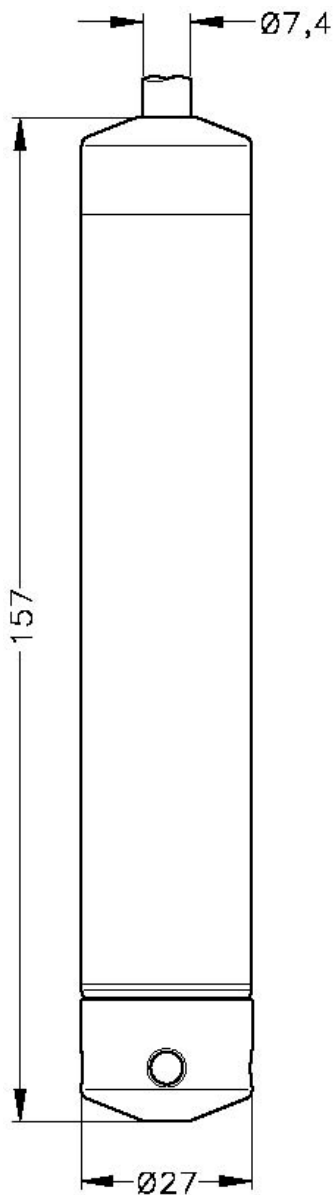
² additional external overvoltage protection unit in terminal box KL 1 or KL 2 with atmospheric pressure reference available on request (please ask for data sheet)

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Technical Data

Dimensions



Electrical connection

Cable with sheath material ³	PVC grey PUR black FEP black
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³ 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)

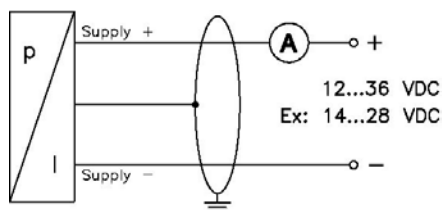
Terminal clamp, stainless steel 1.4301 (304) or steel, zinc plated

Pin configuration

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

Wiring diagram

2-wire-system (current)



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