



# LMK 382

## Stainless Steel Submersible Transmitter

- ▶ capacitive ceramic sensor
- ▶ diameter: 39.5 mm
- ▶ hydrostatic level measurement in sewage water and contaminated media
- ▶ nominal pressure ranges from 0 ... 40 mbar up to 0 ... 10 bar (0 ... 40 cmWC up to 0 ... 100 mWC)

The submersible transmitter LMK 382 has been designed for continuous level measurement.

On basis on a mechanically robust and highly overloadable capacitive ceramic sensor the transmitters are particularly suited for the measurement of low filling heights with good long term stability.

Use in more viscous media such as slurries is possible - removing the protective cap makes the transmitter flush.

The cable output is available in different versions:

- only cable (materials PVC, PUR, FEP available)
- prepared for cable protection with stainless steel pipe

Preferred areas of use are:

- ▶ level monitoring in open tanks with low filling heights
- ▶ depth or level measurement in wells and open waters
- ▶ ground water level measurement
- ▶ sewage and water treatment plants
- ▶ chemical and pharmaceutical industries

- ▶ small thermal effect
- ▶ excellent linearity
- ▶ good long term stability
- ▶ accuracy:  
0.175 % / 0.125 % FSO BFSL  
(0.35 % / 0.25 % FSO IEC 60770)
- ▶ **option Ex: II 1 G EEx ia IIC T4 (only with 4 ... 20 mA / 2-wire) (TÜV 03 ATEX 2006 X)**
- ▶ customer specific versions:
  - special pressure ranges
  - other versions on request

Characteristics



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## Technical Data

Input pressure range <sup>1</sup>														
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 [mWC]	0.4	0.6	1	1,6	2.5	4	6	10	16	25	40	60	100	
Permissible overpressure [bar]	1	1	2	2	4	4	4	7	7	15	25	25	40	

Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / $V_s = 9 \dots 36 V_{DC}$ Ex-protection: $V_s = 12 \dots 28 V_{DC}$

Performance	
Accuracy <sup>2</sup>	standard: $\leq \pm 0.35 \% \text{ FSO}$ (BFSL: $\leq \pm 0.175 \% \text{ FSO}$ ) option: $\leq \pm 0.25 \% \text{ FSO}$ (BFSL: $\leq \pm 0.125 \% \text{ FSO}$ )
Permissible load	$R_{max} = [(V_s - V_{smin}) / 0.02] \Omega$
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 effects	
Thermal error for offset and span in compensated range	$\leq \pm 0.1 \% \text{ FSO} / 10 \text{ K}$ 0 ... 70 °C

Electrical protection <sup>3</sup>	
Reverse polarity protection	no damage, but also no function
Electromagnetic compatibility	emission and immunity according to EN 61326
Option Ex-protection DX13-LMK 382	II 1 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

Electrical connection	
Cable with sheath material <sup>4</sup>	PVC grey PUR black FEP black

<sup>1</sup> version with diaphragm  $Al_2O_3$  99,9% up to 1 bar

<sup>2</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)

<sup>3</sup> additional external overvoltage protection unit in terminal box KL1 or KL2 with atmospheric pressure reference available on request (please ask for data sheet)

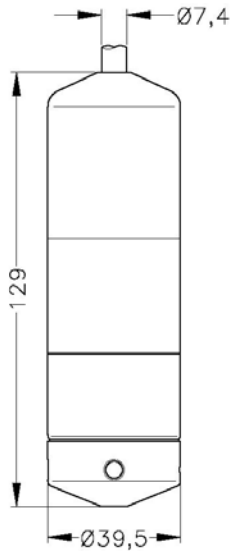
<sup>4</sup> cable with integrated air tube for atmospheric pressure reference

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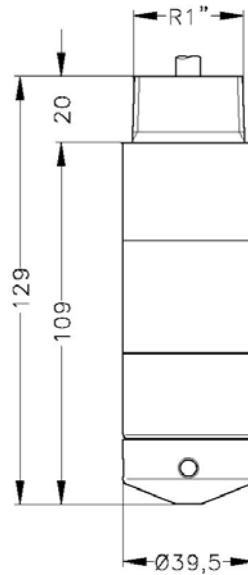
Stainless Steel Level Transmitter

Technical Data

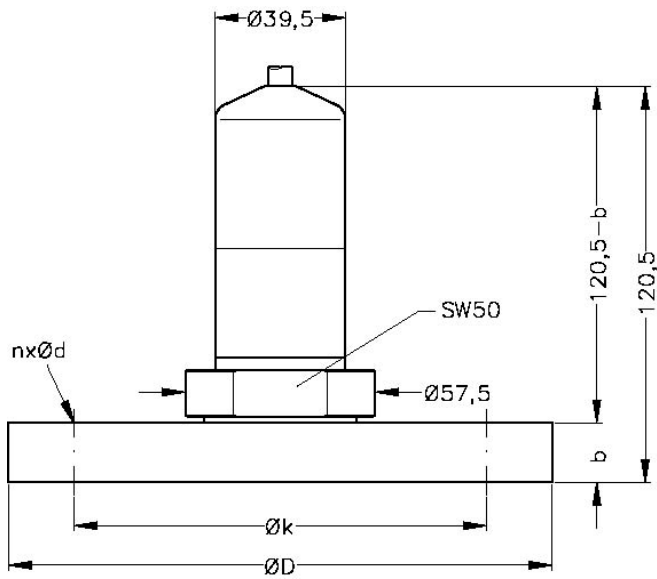
## Dimensions



Standard



Special version with thread R1" for stainless steel pipe



Flange version

Dimensions	DN25 / PN40	DN50 / PN16	DN80 / PN16
D	115	165	200
b	18	18	20
k	85	125	160
n	4	4	8
d	14	18	18

### Materials

Housing	stainless steel 1.4571 (316Ti)
Seals	FKM / EPDM / others on request
Diaphragm	Standard: ceramics Al <sub>2</sub> O <sub>3</sub> 96 % Option: ceramics Al <sub>2</sub> O <sub>3</sub> 99.9 % (up to 1 bar)
Cable sheath	PVC / PUR / FEP

### Miscellaneous

Current consumption	max. 21 mA
Ingress protection	IP 68
Weight	approx. 400 g (without cable)

### Mounting accessories (not included in delivery)

Transmitter flange, stainless steel 1.4571 (316Ti):

DN25 / PN40 (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)

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

DN25 / PN40 (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)

Screw fitting, stainless steel 1.4571 (316 Ti)

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)

