



LMK 307T

Level and Temperature Transmitter

Ceramic Sensor

accuracy according to IEC 60770: 0.5 % FSO

Nominal pressure / nominal temperature

from 0 ... 4 mH₂O up to 0 ... 250 mH₂O 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
- good long term stability
- easy handling
- low maintenance and wiring costs

Optional versions

- different kinds of cables and elastomers
- customer specific versions

The stainless steel submersible probe LMK 307T with flush mounted ceramic sensor has developed for continuous level and temperature measurement in water or waste water applications.

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.

Preferred areas of use are

Water



drinking water systems ground water monitoring domestic water tanks rain spillway basin



<u>Sewage</u>

waste water treatment, water recycling dumpsite, waste water tanks



Fuel and oil

fuel storage, tank farm, biogas plants



Tel.: +49 (0) 92 35 / 98 11- 0

Fax: +49 (0) 92 35 / 98 11- 11





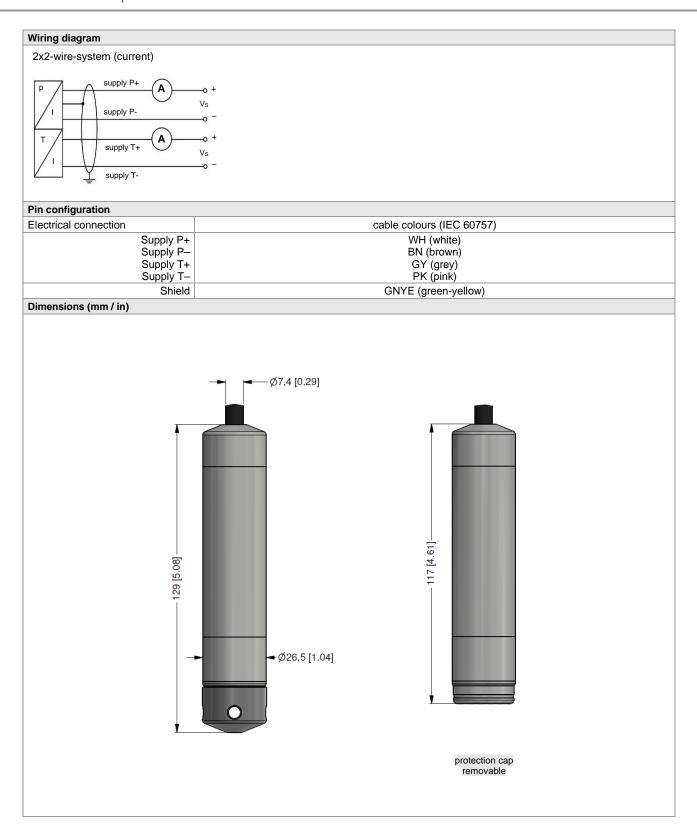


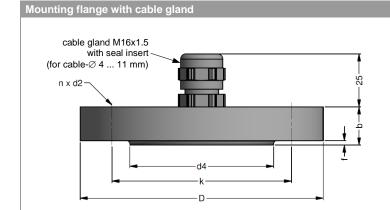
Level and Temperature Transmitter

Input pressure range											
Nominal pressure gauge	[bar]	0.4	0.6	1	1.6	2.5	4	6	10	16	25
Level	[mH ₂ O]	4	6	10	16	25	40	60	100	160	250
Overpressure	[bar]	1	2	2	4	4	10	10	20	40	40
Burst pressure ≥	[bar]	2	4	4	5	5	12	12	25	50	50
Max. ambient pressure (housing): 40 bar											

Input temperature range				
Temperature measuring range	0 30 °C	0 50 °C	0 70 °C	others on request 1
standard:		0 00 0	0 70 0	Others on request
¹ min. temperature range: 30°C; max. min. temperature: -10°C; max. temp				
Output signal / Supply				
2-wire (pressure) ²	4 20 mA / V _S = 10 3	30 V _{DC}		
2-wire (temperature) ²	4 20 mA / V _S = 10 3			
the circuits are galvanically isolated				
Performance				
Accuracy (pressure) 3	≤ ± 0.5 % FSO			
Accuracy (temperature) 4	≤±1°C			
Permissible load	$R_{\text{max}} = [(V_{\text{S}} - V_{\text{S}} \text{ min}) / 0.$.02 A] Ω		
Influence effects	supply: 0.05 % FSO / 10	-	load: 0.05 % FSO /	'kΩ
Long term stability	≤ ± 0.3 % FSO / year at	reference conditions		
Response time	< 10 msec (for output sig	gnal 2-wire (pressure))		
³ accuracy according to IEC 60770 –				
⁴ Pt 100 class B; compensation time	· · · · · · · · · · · · · · · · · · ·	temperature and environmer	ntai respectively mass conditi	ons
Thermal effects (offset and spar	•			70.00
Thermal error	≤ ± 0.2 % FSO / 10 K		in compensated rai	nge 0 70 °C
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			
Electromagnetic compatibility	emission and immunity a			
⁵ additional external overvoltage prot	ection unit in terminal box KL 1 or	KL 2 with atmospheric pres	sure reference available on re	equest
Electrical connection				
Cable with sheath material ⁶	, , ,	rey Ø 7.4 mm		
	(/ -	lack Ø 7.4 mm lack Ø 7.4 mm		
	others on request	10CK 10 7.4 111111		
Cable capacitance		ignal line/signal line: 160	pF/m	
Cable inductance		ignal line/signal line: 1 μΗ		
Bending radius		0-fold cable diameter		
		0-fold cable diameter		
6 shielded cable with integrated venti				
⁷ do not use freely suspended probes Materials (media wetted)	s with an FEP Cable II ellects due	to riigiliy charging processes	s are expected	
· · · · · · · · · · · · · · · · · · ·	stainless steel 1 4404 (2	161 \		
Housing Seals	stainless steel 1.4404 (3	IUL)		
Seals	EPDM			
	others on request			
Diaphragm	ceramics Al ₂ O ₃ 96%			
Protection cap	POM-C			
Cable sheath	PVC, PUR, FEP			
Miscellaneous				
Current consumption	max. 25 mA			
Weight	approx. 250 g (without c	able)		
Ingress protection	IP 68			
CE-conformity	EMC Directive: 2014/30/	/EU		







dimensions in mm				
size	DN25 /	DN50 /	DN80 /	
	PN40	PN40	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 stee	el 1.4305 (303); plastic
Seal insert	material: TPE (ingress protection I	P 68)	
Hole pattern	according to DIN 2507		
			147 1 1 4

Ordering type	Ordering code	Weight
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			

Ordering type	Ordering code	Weight	
Terminal clamp, steel, zinc plated	Z100528	approx 160 a	
Terminal clamp, stainless steel 1,4301 (304)	Z100527	approx. 160 g	

Display program

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

For further information please contact our sales department or visit our homepage: http://www.bdsensors.de



© 2023 BD|SENSORS GmbH - The specifications given in this document represent the state of engineering at the time of publishing. We reserve the right to make modifications to the specifications and materials

BD SENSORS

Tel.: +49 (0) 92 35 / 98 11- 0 Fax: +49 (0) 92 35 / 98 11- 11



Ordering code LMK 307T **LMK 307T** in bar in mH₂O 3 8 A 3 8 B [bar] Input 4 0 0 0 0 6 0 0 0 1 1 0 0 1 1 6 0 1 4 0 0 1 6 0 0 1 1 0 0 2 1 6 0 2 2 5 0 2 9 9 9 9 0.4 0.6 6 10 1.0 16 1.6 25 2.5 40 4.0 60 6.0 100 10 160 16 250 25 customer consult Input temperature 0 0 0 x 3 0 0 0 0 x 5 0 0 0 0 x 7 0 9 9 9 9 9 9 0 ... 30 0 ... 50 0 ... 70 customer consult Housing stainless steel 1.4404 (316L) consult Diaphragm ceramic Al₂O₃ 96 % 2 customer Output pressure 4 ... 20 mA / 2-wire 1 Output temperature 4 ... 20 mA / 2-wire 1 1 **EPDM** 3 customer 9 consult Accuracy 0.5 % FSO 5 Electrical connection / cable leng PVC-cable (grey, Ø 7.4 mm) 0 3 0 5 1 0 1 5 9 9 3 m 0 5 m 0 10 m 15 m special length in m 9 PUR-cable (black, Ø 7.4 mm) 1 0 3 0 5 1 0 0 3 m 0 10 m 2 2 2 0 1 5 9 9 15 m 0 special length in m 9 FEP-cable (black, Ø 7.4 mm) 0 0 5 0 1 0 9 9 9 5 m 3 10 m special length in m 0 0 9 9 standard customer

01.04.2022

specifications and materials

© 2022 BD/SENSORS GmbH - The specifications given in this document represent the state of engineeringat the time of publishing. We reserve the right to make modifications to the

¹ shielded cable with integrated ventilation tube for atmospheric pressure reference