

ILMK307



Stainless Steel Probe

Ceramic Sensor

accuracy according
to IEC 60770: 0.5 % FSO

Nominal pressure

from 0 ... 4 mH₂O up to 0 ... 250 mH₂O

Output signals

2-wire: 4 ... 20 mA

3-wire: 0 ... 20 mA / 0 ... 10 V

others on request

Special characteristics

- ▶ diameter 27 mm
- ▶ good linearity
- ▶ good long term stability
- ▶ easy handling

Optional versions

- ▶ IS-protection
- ▶ SIL 2 (Safety Integrity Level)
according to IEC 61508 / IEC 61511
- ▶ different kinds of cables and elastomers
- ▶ customer specific versions
e. g. special pressure ranges

The level transmitter ILMK307 is designed for continuous level measurement in water or waste water applications. Basic element is a flush mounted ceramic sensor.

Suitable for all fluids which are compatible with media wetted materials. Different cable and elastomer materials can be offered according to the customer-specific operating conditions.

Preferred areas of use are

Water



drinking water system
ground water monitoring
storm water systems

Sewage



waste water treatment
water recycling
dumpsite

Fuel / Oil



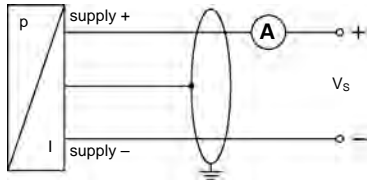
fuel storage
tank farm
biogas plants



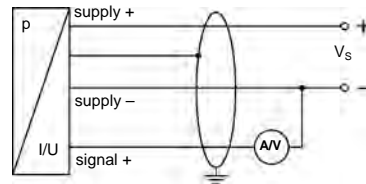
Input pressure range											
Nominal pressure gauge	[bar]	0.4	0.6	1	1.6	2.5	4	6	10	16	25
Level	[mH ₂ O]	4	6	10	16	25	40	60	100	160	250
Overpressure	[bar]	2	2	2	4	4	10	10	20	40	40
Burst pressure	[bar]	4	4	4	5	5	12	12	25	50	50
Output signal / Supply											
Standard	2-wire:	4 ... 20 mA / V _S = 8 ... 32 V _{DC}									
Option IS-protection	2-wire:	4 ... 20 mA / V _S = 10 ... 28 V _{DC}									
Options 3-wire	3-wire:	0 ... 20 mA / V _S = 14 ... 30 V _{DC}									
		0 ... 10 V / V _S = 14 ... 30 V _{DC}									
Performance											
Accuracy		≤ ± 0.5 % FSO									
Permissible load	current 2-wire:	R _{max} = [(V _S - V _{S min}) / 0.02 A] Ω									
	current 3-wire:	R _{max} = 500 Ω									
	voltage 3-wire:	R _{min} = 10 k Ω									
Influence effects	supply:	0.05 % FSO / 10 V									
	load:	0.05 % FSO / kΩ									
Response time		≤ 10 msec									
¹ accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)											
Thermal effects (Offset and Span)											
Thermal error		≤ ± 0.2 % FSO / 10 K in compensated range -25 ... 70 °C									
Permissible temperatures											
Permissible temperatures		medium: -10 ... 70 °C storage: -25 ... 70 °C									
Electrical protection ²											
Short-circuit protection		permanent									
Reverse polarity protection		no damage, but also no function									
Electromagnetic protection		emission and immunity according to EN 61326									
² additional external overvoltage protection unit in terminal box KL 1 or KL 2 with atmospheric pressure reference available on request											
Electrical connection											
Cable with sheath material ³		PVC (-5 ... 70 °C) grey PUR (-10 ... 70 °C) black FEP (-10 ... 70 °C) black									
³ shielded cable with integrated air tube for atmospheric pressure reference											
Materials (media wetted)											
Housing		stainless steel 1.4404 (316L)									
Seals		FKM EPDM									
Diaphragm		ceramics Al ₂ O ₃ 96 %									
Protection cap		POM									
Explosion protection (only for 4 ... 20 mA / 2-wire)											
Approvals DX19-LMK 307		IBExU 10 ATEX 1068 X / IECEx IBE 12.0027X zone 0: II 1G Ex ia IIC T4 Ga zone 20: II 1D Ex ia IIIC T 85°C Da									
Safety technical maximum values		U _i = 28 V, I _i = 93 mA, P _i = 660 mW, C _i ≈ 0nF, L _i ≈ 0 μH, the supply connections have an inner capacity of max. 27 nF to the housing									
Ambient temperature range		in zone 0: -20 ... 60 °C with p _{atm} 0.8 bar up to 1.1 bar in zone 1: -20 ... 70 °C									
Connecting cables (by factory)		cable capacitance: signal line/shield also signal line/signal line: 160 pF/m cable inductance: signal line/shield also signal line/signal line: 1μH/m									
Miscellaneous											
Option SIL ⁴ 2 application		according to IEC 61508 / IEC 61511									
Current consumption		signal output current: max. 25 mA signal output voltage: max. 7 mA									
Weight		approx. 250 g (without cable)									
Ingress protection		IP 68									
CE-conformity		EMC Directive: 2004/108/EC									
ATEX Directive		94/4/EG									
⁴ only for 4...20mA / 2-wire											

Wiring diagrams

2-wire-system (current)



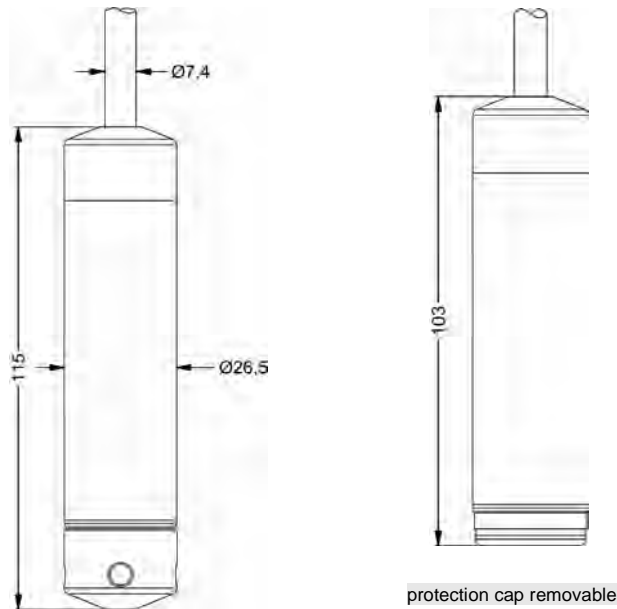
3-wire-system (current / voltage)



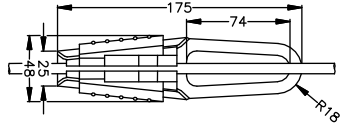
Pin configuration

Electrical connection	cable colours (DIN 47100)
Supply +	wh (white)
Supply -	bn (brown)
Signal + (only 3-wire)	gn (green)
Shield	ye/gn (yellow / green)

Dimensions (in mm)



Accessories

Terminal clamp		
Technical Data		
Suitable for	all probes with cable \varnothing 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, zinc plated		Z100528
Terminal clamp, stainless steel 1.4301 (304)		Z100527

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Ordering code ILMK 307

ILMK 307



Pressure																
	in bar	3	8	0												
	in mH ₂ O	3	8	1												
Input	[mH ₂ O]	[bar]														
	4.0	0.40		4	0	0	0									
	6.0	0.60		6	0	0	0									
	10	1.0		1	0	0	1									
	16	1.6		1	6	0	1									
	25	2.5		2	5	0	1									
	40	4.0		4	0	0	1									
	60	6.0		6	0	0	1									
	100	10		1	0	0	2									
	160	16		1	6	0	2									
	250	25		2	5	0	2									
	customer			9	9	9	9								consult	
Housing	Stainless steel 1.4404 (316L)															
	customer															consult
Diaphragm	Ceramics Al ₂ O ₃ 96%															
	customer															consult
Output	4 ... 20 mA / 2-wire															
	0 ... 20 mA / 3-wire															1
	0 ... 10 V / 3-wire															2
	Intrinsic safety 4 ... 20 mA / 2-wire															3
	SIL2 4 ... 20 mA / 2-wire															E
	SIL2 with Intrinsic safety															1S
	4 ... 20 mA / 2-wire															ES
	customer															9
																consult
Seals	FKM															1
	EPDM															3
	customer															9
																consult
Accuracy	0.5 %															5
	customer															9
																consult
Electrical connection	PVC-cable ¹															1
	PUR-cable ¹															2
	FEP-cable ¹															3
	customer															9
																consult
Cable length	in m															
	standard: 3 m	PVC														0 0 3
	standard: 5 m	PVC														0 0 5
	standard: 10 m	PVC														0 1 0
	standard: 15 m	PVC														0 1 5
	standard: 20 m	PVC														0 2 0
	special length	PVC														9 9 9
	standard: 3 m	PUR														0 0 3
	standard: 5 m	PUR														0 0 5
	standard: 10 m	PUR														0 1 0
	standard: 15 m	PUR														0 1 5
	standard: 20 m	PUR														0 2 0
	special length	PUR														9 9 9
	standard: 5 m	FEP														0 0 5
	standard: 10 m	FEP														0 1 0
	special length	FEP														9 9 9
Special version	standard															0 0 0
	customer															9 9 9
																consult

¹ cable with integrated air tube for atmospheric pressure reference

Standard lengths 3 / 5 / 10 / 15 / 20 m are available from stock, special lengths are manufactured order-related, price per meter (see above).

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