



ILMK 487

Probe for Marine and Offshore 22 mm

Ceramic Sensor

accuracy according to IEC 60770: 0.25 % FSO

Nominal pressure

from 0 ... 1 mH₂O up to 0 ... 100 mH₂O

Output signals

2-wire: 4 ... 20 mA others on request

Special characteristics

- diameter 22 mm
- LR-certificate (Lloyd's Register)
- DNV-GL Approval (Det Norske Veritas - Germanischer Lloyd)
- diaphragm 99.9 % Al₂O₃
- high long-term stability

Optional versions

- housing material titanium
- IS-version
 Ex ia = intrinsically safe for gas and dust
- temperature element Pt 100
- different kinds of elastomer

The hydrostatic probe ILMK 487 has been developed for measuring levels in various tank applications for shipbuilding and offshore. In comparison to the hydrostatic probe ILMK 458 the external diameter amounts to only 22 mm by which the installation in 1" pipes can be carried out easily.

Beside the housing materials stainless steel and titanium, different elastomer materials are available by which an optimum adaptation to the application can be ensured.

Preferred areas of use

Water



drinking water abstraction desalinization plant

<u>Shipbuilding / Offshore</u> ballast tanks



monitoring of a ship's position and draught level measurement in ballast and storage tanks

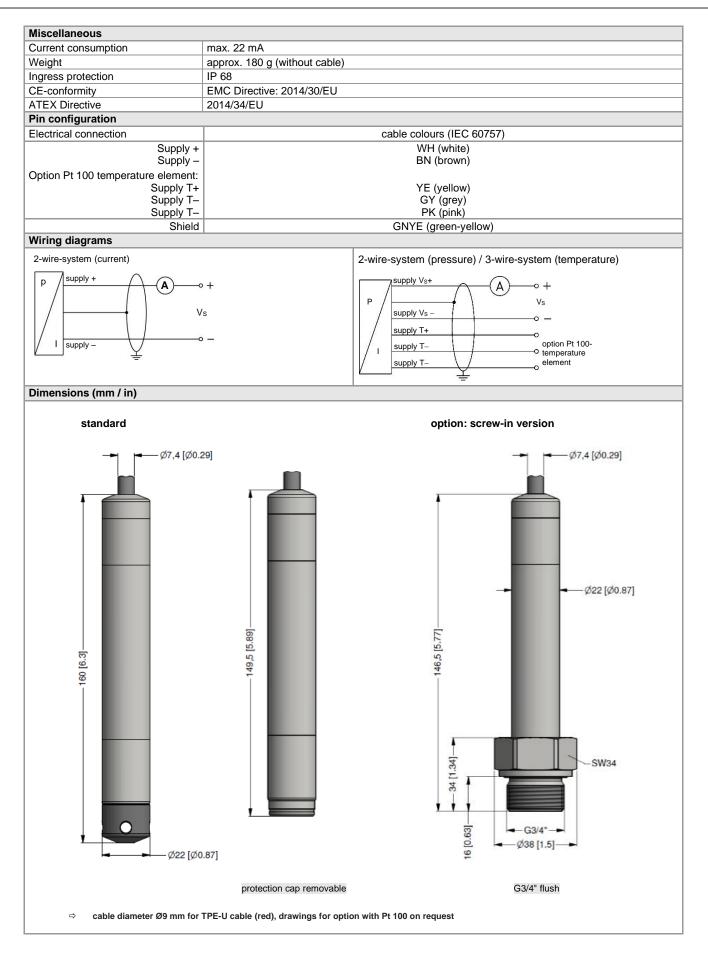


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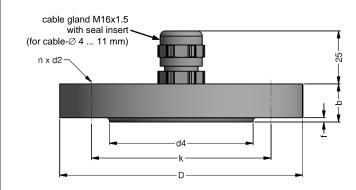
Input pressure range													
Nominal pressure gaug		0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10	
Level	[mH ₂ O]	1	1.6	2.5	4	6	10	16	25	40	60	100	
Overpressure	[bar]	3	4	5	5	7	7	12	20	20	20	20	
Burst pressure ≥	[bar]	4	6	8	8	9	9	18	25	25	30	30	
Permissible vacuum	[bar]	-0.2	-0.3		-().5				-1			
Max. ambient pressure	(housing): 4) bar											
Output signal / Supply	v												
Standard	<u>/</u>	2-wire: 4	20 m/	(1) - 1	2 261	/							
Option IS-version		2-wire: 4	20 m/	$A / V_S = I$	4 20	DC							
Option Pt 100-tempera	ature elemei												
Temperature range		-25 12	5 0										
Connectivity technology	<u>y</u>		3-wire max. voltage 10 V _{DC} , max. current 2 mA, in intrinsically safe circui in intrinsically safe circui										
Resistance		100 Ω at				-							
Temperature coefficien	<u>t</u>	3850 ppr				max. pov	verium	vv,	in intrinsio	cally sale	circuit 40		
Supply Is		0.3 1.0	J mA _{DC}										
Performance		1											
Accuracy ¹		nominal				5 % FSO	n1	nominal	pressure <	0.4 bar ≤	± 0.35 %	FSO	
Permissible load				_{in}) / 0.02 A									
Influence effects				SO / 10 V	/			oad: 0.0	5 % FSO /	kΩ			
Long term stability		≤ ± 0.1 %		/ear									
Turn-on time		450 mse											
Mean response time		≤ 70 mse	ec										
Measuring rate		80 Hz											
¹ accuracy according to IE		t point adjusi	tment (nor	n-linearity,	hysteresis	s, repeatabii	ity)						
Thermal effects (offse	et and span)												
Tolerance band		≤ ± 1 % F	SO				i	n compe	ensated rar	nge -20	. 80 °C		
Permissible temperate	ures												
Permissible temperatur	res	medium	/ storage	: -25 8	5 °C								
Electrical protection ²	-												
Short-circuit protection		permane	nt										
Reverse polarity protec		no dama		lso no fur	nction								
Electromagnetic compa		emission				<u>ר</u>							
		- EN 61					orske Ver	itas • Ge	ermanische	r Llovd)			
² additional external overvo	oltage protectio	n unit in terr	ninal box										
Mechanical stability													
N (1) - (1)													
Vibration		4 g (acco	ording to	DNV•GL:	Class B	, curve 2 /	basis: IE	C 60068	8-2-6)				
Vibration Electrical connection		4 g (acco	ording to	DNV•GL:	Class B	, curve 2 /	basis: IE	C 60068	8-2-6)				
Electrical connection	-	4 g (acco			Class B	, curve 2 / Ø 7.4 mr		C 60068	8-2-6)				
Electrical connection	-			125 °C)			n	C 60068	8-2-6)				
Electrical connection Cable with sheath mate	-	TPE-U	(-25 (-25	125 °C) 125 °C)	blue red	Ø 7.4 mr Ø 9.0 mr	n n		3-2-6) applicatior	n: 20-fold	cable dia	meter	
Electrical connection Cable with sheath mate Bending radius	erial ³	TPE-U TPE-U ⁴ static ins	(-25 (-25 tallation:	125 °C) 125 °C) 10-fold ca	blue red able diar	Ø 7.4 mr Ø 9.0 mr neter	n n (dynamic	applicatior				
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ILMK 487

Probe for Marine and Offshore



Mounting flange with cable gland



dimensions in mm											
oi=0	DN25 /	DN50 /	DN80 /								
size	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 steel 1.4305 (303); plastic										
Seal insert	material: TPE (ingress protection IP 68)									
Hole pattern	according to DIN 2507									
Ordering type		Ordering code	Weight							
DN25 / PN40 with cable gland	d brass, nickel plated	ZMF2540	1.4 kg							
DN50 / PN40 with cable glane	d brass, nickel plated	ZMF5040	3.2 kg							
DN80 / PN16 with cable gland	d brass, nickel plated	ZMF8016 4.8 kg								

Terminal clamp



Technical data											
Suitable for	all probes with cable \varnothing 5.5 10.5 mm										
Material of housing	standard: steel, zinc plated	standard: steel, zinc plated optionally: stainless steel 1.4301 (304)									
Material of clamping jaws and positioning clips	PA (fibre-glass reinforced)	PA (fibre-glass reinforced)									
Dimensions (mm)	174 x 45 x 32	174 x 45 x 32									
Hook diameter 20 mm											
Ordering type Ordering code Weight											
Terminal clamp, steel, zinc plated		Z100528	approx. 160 g								
Terminal clamp, stainless steel 1.4	4301 (304)	Z100527 approx. 160									

Display program

CIT 200	Process display with LED display	
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	C'YEB
CIT 600	Multichannel process display with graphics-capable LC display	35.65
CIT 650	Multichannel process display with graphics-capable LC display and datalogger	2799.9 14.58
CIT 700 /	CIT 750 Multichannel process display with graphics-capable TFT monitor, touchscreen and contacts	
PA 440	Field display with 4-digit LC display	2799-9 14.58
		35.65
		B3h,2

Ordering code ILMK 487																					
ILMK 48	37		Ш.	- 🗌]-	-	-[]-[]-[]-[]-[]-[]-[-[
Pressure																					
riessule	gauge in bar	3 (6 5			T	Т	-													
	gauge in mH ₂ O	3 (6 6																		
Input [mH ₂ O] [bar]																				
	1.0 0.10			1	0 6	0	0														
	1.6 0.16 2.5 0.25			2	5	0															
	4.0 0.40			4	0	0	0														
	6.0 0.60			6	0	0	0														
	10 1.0			1	0		1														
	16 1.6			1	6	0	1														
	25 2.5 40 4.0			2 4	5 0	0	1 1														
	40 4.0 60 6.0			4			1														
	100 10			1	0	0	2														
	customer			9	9	9	9														consult
Housing																					
stainless ste	eel 1.4404 (316L)							1													
	titanium customer							Т 9													concult
Design	customer			-	-	-	-	9													consult
Design	probe	_	_	_	-	-	-	-	1												
screw-in ve	ersion G3/4" flush								В												
Diaphragm																					
ceran	nics Al ₂ O ₃ 99,9 %									С											
	customer									9											consult
Output	00 m A / O wine																				
	20 mA / 2-wire										1 E										
intrinsic safety 4	20 mA / 2-wire customer										9										consult
Seals	customer										9										Consult
	FKM											1									
	EPDM											3									
	FFKM ¹											7									
	customer											9									consult
Electrical connection	(blue, Ø 7.4 mm) 2												4								
	e (red, Ø 9.0 mm) ^{2,3}												42								
Accuracy	- (1, ~ 0.0													- 1							
standard for p _N < 0,4 bar	0.35 % FSO													3							
standard for p _N ≥ 0,4 bar	0.25 % FSO													2							
	customer													g							consult
Cable length																					
	in m														ç	9 9	9				
Special version	aton do!																				
with temporate	standard ure sensor Pt 100																	(0 3	
with temperati	customer																		9 9	9	consult
	2.5000000																			5	CONDUR

¹ min. permissible temperature from -15 °C

² shielded cable with integrated ventilation tube for atmospheric pressure reference
 ³ only in combination with IS version (explosion protection) and temperature element Pt 100