

# Level Probe

# BLP1

The level probe BLP1 was designed for severe conditions, especially for navigation or offshore applications. Due to the housing material CuNiFe, a special copper-nickel alloy, in combination with several mounting types, the BLP1 can be used with all media occurring in the field of navigation, and with various tank, container and basin configurations.

## Features

- ▶ Accuracy acc. to IEC 60770 0.25% / 0.1% FSO
- ▶ Marine approval: DNV-GL
- ▶ Level probe made of CuNiFe alloy (1.4404 on request)
- ▶ Excellent seawater resistance
- ▶ Installation in tank as submersible probe with cable, with stainless steel pipe or with mounting bracket
- ▶ Installation outside the tank by means of threaded connection and optionally with adapter flange DN25 or DN50
- ▶ Due to flush measuring diaphragm even suitable for high viscosity media (removable protection cap)
- ▶ Low temperature error, long-term stability
- ▶ High resistance to electrical faults (incorrect wiring, short circuit and overvoltage)
- ▶ Rugged and reliable
- ▶ Option: Ex II 1G Ex ia IIB T4 Ga

## Applications

Ballast containers  
 Fuel and oil tanks  
 Service and waste water tanks  
 Draft measuring systems  
 Tank level measuring systems



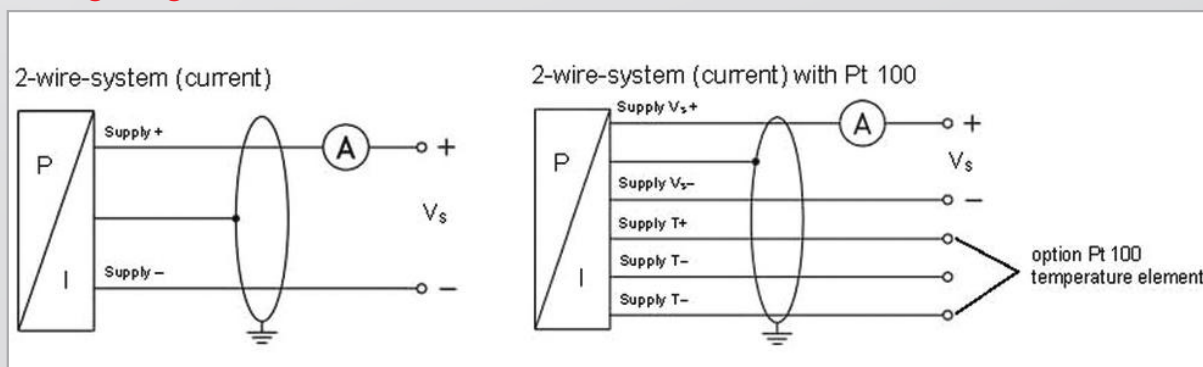
## Clamp Material

Clamp material	Dimension	
	a	L
CuNiFe	82/3.22	100/3.93
Stainless steel	100/3.93	130/5.11

## Connection Chart

Pin configuration	Electrical connections Cable colors according to DIN 47100
2-wire-system: Supply + Supply - Earth	white brown Cable shield
Option PT100 Supply + Supply - Supply -	yellow grey pink

## Wiring Diagrams



# Level Probe

## Technical Data

<b>Materials:</b>	Copper-nickel alloy (CuNi10FE1Mn)														
<b>Housing:</b>	Option: stainless steel 1.4404														
<b>Diaphragm:</b>	standard: ceramics Al <sub>2</sub> O <sub>3</sub> 96 %														
<b>Seals:</b>	FKM, option: FFKM														
<b>Cable sheath:</b>	TPE, seawater-proof, halogen-free, temperature resistant up to 125 °C														
<b>Protection class:</b>	IP68 (DIN 40050)														
<b>Weight (without cable):</b>	approx. 400 g														
<b>Measuring range:</b>	0.04	0.06	0.1	0.16	0.25	0.4	0.6	1.0	1.6	2.5	4	6	10	16	20
<b>Nominal pressure PN [bar] rel.:</b>	0.4	0.6	1	1.6	2.5	4	6	10	16	25	40	60	100	160	200
<b>Filling height FH [mWC]:</b>	2	2	4	4	6	6	8	8	15	25	25	35	35	45	45
<b>perm. overpressure Pmax [bar]</b>															
<b>Linearity error:</b>	acc. to IEC 60770 - limit point adjustment (nonlinearity, hysteresis, repeatability)														
<b>Standard:</b>	≤ ±0.25 % FSO														
<b>Option:</b>	≤ ±0.1% FSO														
<b>Load:</b>	2-wire system: [ UB (V) – 10 V] / 0.02 A														
<b>Influence effects:</b>															
<b>Auxiliary energy:</b>	≤ ±0.05% FSO / 10 V														
<b>Load:</b>	≤ ±0.05% FSO / kΩ														
<b>Electrical connection:</b>	Special cable with integrated air tube for atmospheric reference														
<b>Cable protection:</b>															
<b>Standard:</b>	without cable protection														
<b>Special design:</b>	Stainless steel pipe (available as compact product with stainless steel pipe with a total length of up to 2 m)														
<b>Auxiliary energy:</b>															
<b>Standard:</b>	Operating voltage: 9 ... 32 V DC														
<b>Option:</b>	Ex protection: 14 ... 28 V DC														
<b>Output signal:</b>															
<b>Standard:</b>	2-wire system														
<b>Current:</b>	4 ... 20 mA														
<b>Temperature:</b>	PT100 (3-wire)														
<b>Long-term stability:</b>	≤ ±0.1% FSO /year														
<b>Temperature error:</b>															
<b>error for offset and span:</b>	≤ ± 0.1 % FSO														
<b>in compensated range:</b>	-20 ... 88 °C														
<b>Temperature range:</b>															
<b>Operating temperature:</b>	-25 °C ... +125 °C														
<b>Storage:</b>	-40 °C ... +125 °C														
<b>Mechanical stability:</b>	4 g Vibration acc. to IEC 60 068-2-6														
<b>Approvals:</b>	DNV-GL Optional: ATEX Cert. No IBExU10ATEX1142 X / Ex II 1G Ex ia IIB T4 Ga, ambient temperature range: -25°C ≤ Ta ≤ +70°C The device may only be operated in an explosive atmosphere that requires category 1 equipment if atmospheric conditions are present (temperature -20°C to +60°C, pressure from 0.8 bar to 1.1 bar).														
<b>Mounting accessories (not included in the scope of delivery):</b>	Mounting clamp made of CuNiFe, stainless steel Mounting flange for fixing submersible level transmitter made of stainless steel DN25 / PN40														

## Accessories

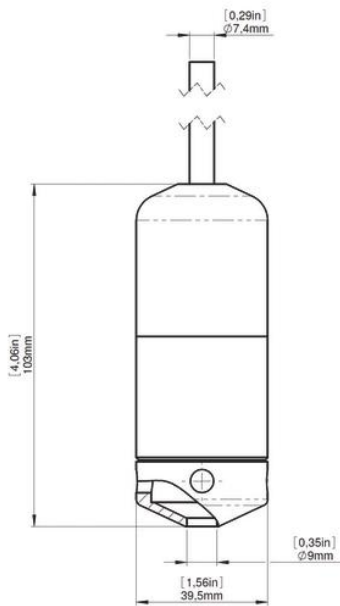
Order Number	Description
906-0984	Adapter flange DN25 / PN40 for flange probe
906-0985	Adapter flange DN50 / PN40 for flange probe
0499-022	Mounting flange for fixing submersible probe made of stainless steel DN25/PN40

# Level Probe

**BLP1**

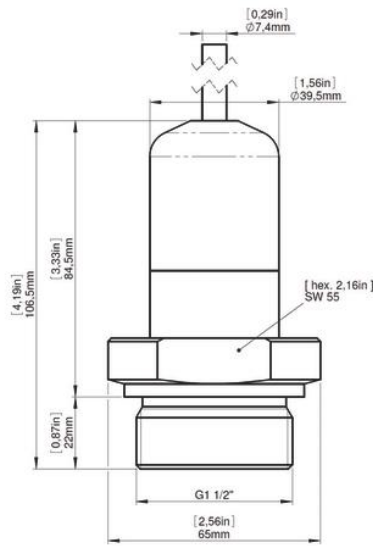
## Dimensions (mm / inch)

Submersible version



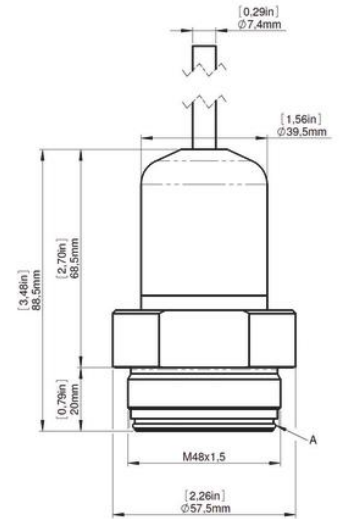
930-0124 A

Screw-in version



930-0125 B

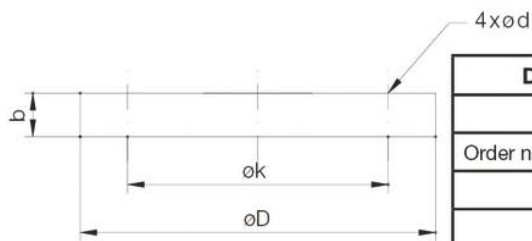
Flange version



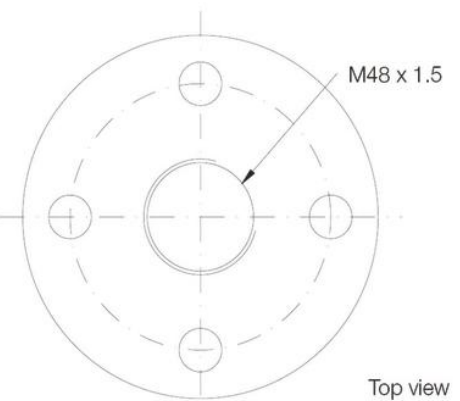
A O-Ring 40x2 V100.S

930-0127 A

### Adapter flanges of stainless steel (accessory)

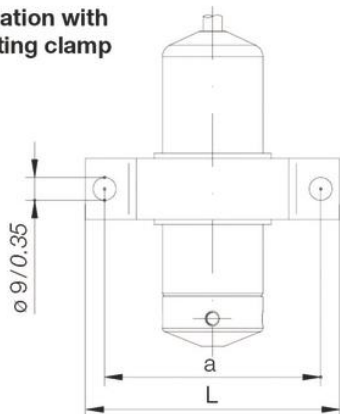


Dimensions in mm		
	DN25	DN50
Order no.	906-0984	906-0985
b	18	18
k	85	110
D	115	150
d	14	18

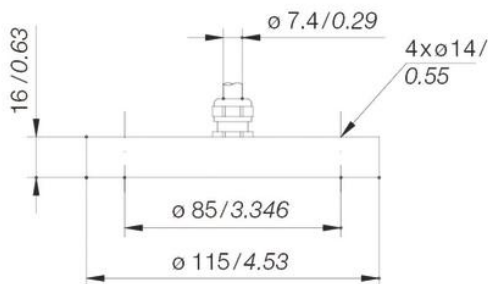


Top view

### Installation with mounting clamp



### Mounting flange DN25 for submersible probe



## Level Probe

**BLP1**

### Order Code

<b>BLP1</b>							<b>Base model</b>					
							<b>Process Connection</b>					
<b>S</b>							Submersible probe					
<b>F</b>							Flange M48x1,5					
<b>E</b>							G11/2" screw-in probe					
							<b>Range</b>					
	<b>mWs</b>	<b>bar</b>										
	0,4	0,04					0...0,4 mWs (0...0,04 bar)					
	0,6	0,06					0...0,6 mWs (0...0,06 bar)					
	1,0	0,10					0...1 mWs (0...0,1 bar)					
	1,6	0,16					0...1,6 mWs (0...0,16 bar)					
	2,5	0,25					0...2,5 mWs (0...0,25 bar)					
	4	0,4					0...4 mWs (0...0,4 bar)					
	6	0,6					0...6 mWs (0...0,6 bar)					
	10	1,0					0...10 mWs (0...1 bar)					
	16	1,6					0...16 mWs (0...1,6 bar)					
	25	2,5					0...25 mWs (0...2,5 bar)					
	40	4,0					0...40 mWs (0...4 bar)					
	60	6,0					0...60 mWs (0...6 bar)					
	100	10					0...100 mWs (0...10 bar)					
	160	16					0...160 mWs (0...16 bar)					
	200	20					0...200 mWs (0...20 bar)					
							<b>Housing</b>					
							Stainless steel 1.4404 (316L)					
							CuNiFe1MN					
							<b>Electrical connection</b>					
							TPE cable x meter (to order separately)					
							<b>Sealing</b>					
							FKM					
							FFKM					
							<b>Option</b>					
							EX Exi Approval					
							PT100 PT100 (not Exi)					
<b>Order code example:</b>												
BLP1	/	S	/	6mWS	/	SS	/	T10M	/	F	/	PT100

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