

NIVEAU/LEVEL

Pegelsonden / *Level Probes*

**Auch mit
Ex- und GL-
Zulassung**



**Also with
Ex- and GL-
Approval**



switch
regeln



measure
messen



control
steuern

Einleitung

Introduction

Aufbau und Funktion

Basiselemente der Pegelsonden sind Drucksensoren in Edelstahl- bzw. Kermikausführung. Die Messzellen verfügen über eine laserverschweisste Trennmembrane mit interner Ölvorlage.

Während der Messung erzeugt die über der Pegelsonde liegende Flüssigkeitssäule einen Druck, der über die Trennmembrane und die interne Ölvorlage auf das Halbleitersensorelement übertragen wird. Eine Verstärkerelektronik versorgt den Sensor und wandelt das zur Füllhöhe proportionale Signal in ein temperaturkompensiertes Normausgangssignal (4...20 mA, 0...10 VDC). Das Nutzsignal wird dann über ein Kabel an nachgeschaltete Auswerte- und Anzeigeeinheiten weitergeleitet.

Bei diesem Messprinzip spricht man auch von hydrostatischer Füllstandmessung.

Für jedes Medium eine Lösung

Mit den hydrostatischen Tauchsonden der Baureihen UPA2-LMP und UPA2-LMK können Füllstände zwischen 60 cm und 200 m kontinuierlich gemessen werden. Durch die Auswahl bei den verwendeten Werkstoffen stehen auch für aggressive Medien Lösungen zur Verfügung.

Nach Abnehmen der Schutzkappe ist selbst der Einsatz in höherviskosen Schlämmen möglich. Auch eine geflanschte Ausführung ist lieferbar. Der elektrische Anschluss erfolgt über ein PVC- oder PUR-Kabel. Durch eine Patentlösung kann das Kabelteil von der eigentlichen Sonde getrennt werden. Dies erleichtert die Handhabung, Wartung und Lagerhaltung. Die Kabelteile sind in unterschiedlichen Ausführungen (Kabel bzw. Kabelschutz mit Hart- oder Wellrohr) lieferbar.

Überdurchschnittliche messtechnische Eigenschaften wie 0,35% FS IEC 770 und Langzeitstabilität sind selbstverständlich serienmäßig. Die Ausführungen in Edelstahl sind auch in II 1 G EEx ia IIC T4 lieferbar.

Für Sonderanwendungen bieten wir intelligente Pegelsonden mit serieller Schnittstelle, SMART-Technologie und Dataloggerfunktion.

Construction and function

The basic elements of the level indicators are Stainless Steel or ceramic pressure sensors. These cells have a laser-welded separating membrane filled with an oil medium.

During a measurement, the column of liquid on top of the level indicator creates pressure which is transferred via the separating membrane and oil medium to the semi-conductor sensor.

The sensor is equipped with amplifying electronics which translate the level output into a temperature compensated norm output (4...20 mA, 0...10 VDC). The output is then transmitted by a connecting line to the reader/display unit.

This process is also referred to as hydrostatic level measurement.

Designed for various media

With the hydrostatic submersion probes of the UPA2-LMP and UPA-LMK series, tank levels of between 60 cm and 200 m can be continuously measured. There are various materials available, even for aggressive media.

After removing the protecting cover, the probes can be used even in highly viscous media such as silt and sludge deposits. Also a flanged version is available. The electric connection to the probe is by a PVC or PUR cable. For easy handling, maintenance and storage the cable can be disconnected from the probe. Cables are available in various designs (cables or protective covering with hard or corrugated tubing).

Above-average tolerances, e.g. 0.35 % FS IEC 770, and long-term stability are standard features of the line. The stainless steel versions are also available as II 1 G EEx ia IIC T4.

For special applications we can provide probes with features such as serial interface, SMART technology and data logging functions.

Type UPA2-LMP 307

Hydrostatic Level Measurement 1 mWC up to 160 mWC

The UPA2-LMP 307 level transmitter is suited for continuous fluid level measurement.

It can be used even in more viscous media as for example sludges - one simply has to remove the protective cap creating a flush diaphragm.

The design of the transmitter is marked by miniaturisation of mechanical parts and thus by small dimensions.

Features

- Measuring range 0...1 mWC up to 0...160 mWC
- Output Signals 4...20 mA / 2-wire or 0...10 V / 3-wire
- High accuracy acc. to IEC 60770 0,25% / 0,35% FSO
- High resistance against electrical faults caused by incorrect wiring, short-circuit, and overvoltage
- Cable with integrated air tube for atmospheric reference
- Flush diaphragm by simply removing the protective cap
- Option: II 1 G EEx ia IIC T4

Applications

- Environmental technology: sewage treatment, water supply
- Depth or level measurement in wells and open waters
- Ground water level measurement
- Level monitoring in open tanks

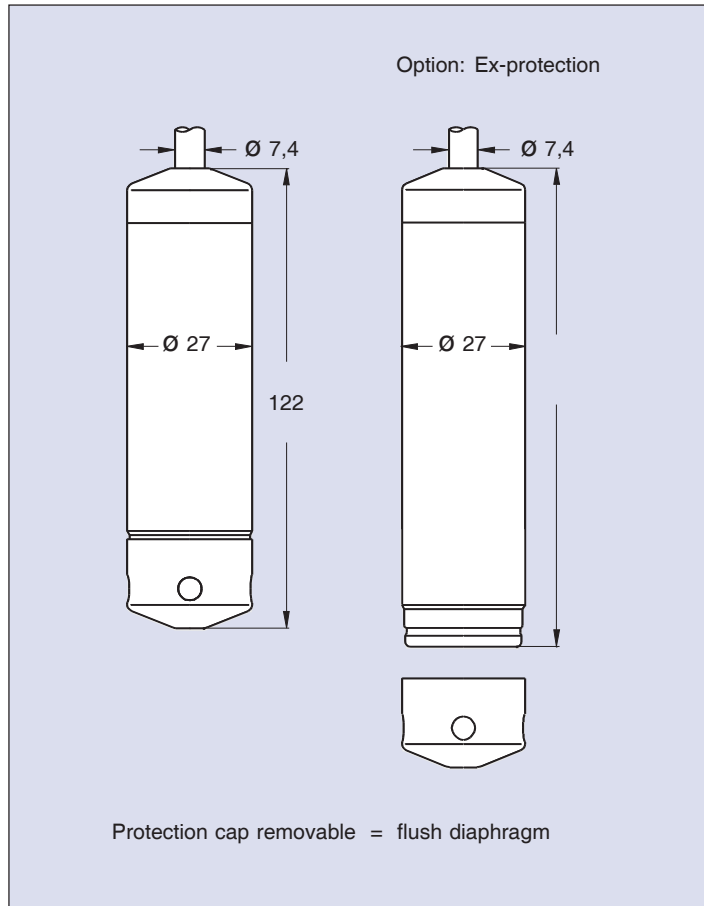


Technical Data

Input Pressure Range	Press. Range P _N [bar] gauge	0.1	0.25	0.4	0.6	1.0	1.6	2.5	4	6	10	16	
	Filling Height [mWC]	1.0	2.5	4	6	10	16	25	40	60	100	160	
	Overpressure P _{max} [bar]	1	1	1	4	4	8	8	8	8	28	28	30
Supply	Voltage [VDC]	12 ... 36, option Ex-protection: 12 ... 28											
Output Signal		2-Wire-System, current: 4 ... 20 mA											
Performance	Accuracy according to IEC 60770 - Limit Point Adjustment (Nonlinearity, Hysteresis, Repeatability): Standard	≤ ± 0.35% FSO (Nominal Press. 0.1 ... 0.4 bar ≤ ± 0.5% FSO), Optional (PN >0.4 bar): ≤ ± 0.25% FSO											
	Permissible Load [Ω]	Current 2-Wire: [UB (V) - 12V] / 0.02 A											
	Influence Effects	Supply : ≤ ± 0.05% FSO / 10 V, Load : ≤ ± 0.05% FSO / kΩ											
Option Ex-protection II 1 G EEx ia CII T4		Safety relevant data: U _i = 28 V; I _i = 93 mA; P _i = 660 mW											
Thermal Effects	Nominal Pressure P _N [bar]	0.1	0.25	0.4	0.6	1.0	1.6	2.5	4	6	10	16	
	Tolerance Band Offset + Span [± %FSO]	< 2.0	< 1.5	< 1.0			< 0.75						
	Compensated Range [°C]	0...70	0...70	0...70			0...70						
Electrical Connection		Cable with integrated air tube for atmospheric reference, PVC-/PUR-/FEP-Sheath											
Temp. Ranges	Medium [°C]	-10 ... 70											
	Storage [°C]	-25... 70											
Materials	Housing	Stainless steel 1.4305											
	Diaphragm	Stainless steel 1.4404											
	Sealings	Viton (FKM)											
	Cable Sheath	PVC grey / PUR black / FEP											
Miscellaneous	Current Consumption	Current Output Signal < 30 mA											
	Ingress Protection	IP68 (DIN 40 050)											
	Weight	approx. 200 g (without cable)											

Type UPA2-LMP 307

Dimensions (in mm)

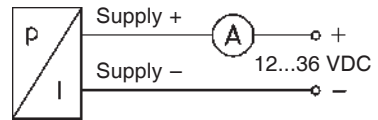


Connection chart

Wiring	Electrical connections
	Cable colours acc. to DIN 47100
2-wire system: Supply + Supply - Earth	white brown Cable shield

Electrical connection

2-wire: 4...20 mA



Order number example

Type	Series	Unit	Measuring range	Output signal	Accuracy	Electrical connection	Cable length
UPA2	LMP 307	bar	1000	1	5	1	005

Your order number

UPA2	LMP 307						
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Unit	Measuring range			Output signal	Accuracy	Electrical connection	Cable length [m]
	[bar]	[mWC]					
bar mWC	0,1	1,0	1000	(1) 4... 20 mA 2-wire	(3) 0,35% Standard	(1) PVC-cable	XXX (e. g.: 5 m = 005)
	0,25	2,5	2500				
	0,4	4,0	4000				
	0,6	6,0	6000	(E) 4... 20 mA 2-wire Ex-protection II 1 G EExia IIC T4	(5) Option 0,5% (at PN \leq 0,4 bar)	(2) PUR-cable	
	1,0	10	1001				
	1,6	16	1601				
	2,5	25	2501				
	4,0	40	4001				
	6,0	60	6001				
	10	100	1002				
16	160	1602	(2) Option 0,25% (at PN $>$ 0,4 bar)	(3) FEP-cable			

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Barksdale Level Probes

Specifications are subject to changes without notice.

Type UPA2-LMK 358

Capacitive Ceramic Sensor Hydrostatic Level Measurement 0,6 mWC up to 200 mWC

The submersible transmitter UPA2-LMK 358 has been designed for continuous level measurement for very small filling heights. This special ability is achieved by using a very sensitive ceramic pressure sensor. Usage in high viscous media such as slurries is possible because of the flush diaphragm.

Features

- ceramic pressure sensor, excellent linearity
- high resistance against electrical faults caused by in correct wiring, short-circuit and overvoltage
- cable with integrated air tube for atmospheric reference
- transmitter and cable assembly plugged
- usage with higher viscous media possible because of flush diaphragm
- cable protection with stainless steel pipe available
- different mounting alternatives
- Option: II 1 G EEx ia IIC T4

Applications

- level measurement in open tanks with small filling heights
- depth or level measurement in wells and open waters
- ground water level measurement
- water supply and sewage treatment
- chemical and medical industry

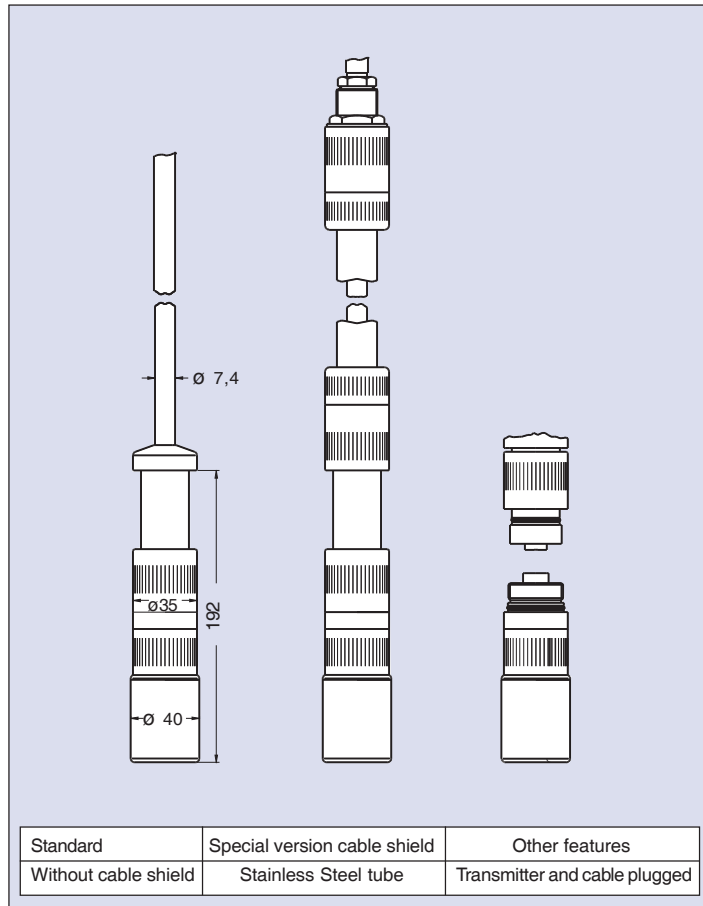
Technical Data

Input Pressure Range	Press. Range PN [bar] gauge	0,06	0,1	0,25	0,4	0,6	1	1,6	2,5	4	6	10	20
	Filling Height FH [mWC]	0,6	1,0	2,5	4	6	10	16	20	40	60	100	200
	Overpressure Pmax [bar]	2	2	2	4	4	7	7	15	25	25	40	60
Supply	Voltage [VDC]	12 ... 36											
Output Signal	Standard	2-wire-system, current: 4 ... 20 mA											
Performance	Accuracy according to IEC 60770 - Limit Point Adjustment (Nonlinearity, Hysteresis, Repeatability) Standard	≤ ± 0,35% FSO											
	Permissible Load [Ω]	Current 2-wire system: [UB (V) - 12V] / 0,02 A											
	Influence Effects Supply	≤ ± 0,05% FSO / 10 V, Load : ≤ ± 0,05% FSO / kΩ											
Option Ex-protection II 1 G EEx ia CII T4		Safety relevant data: Ui = 28 V; li = 93 mA; Pi = 660 mW											
Thermal Effects		Tolerance Band Offset and Span in compensated Range: 10 ... 70°C: < ± 0,1 % FSO / 10 K											
Electrical Connection		Cable with integrated air tube for atmospheric reference PVC-/PUR-/FEP Sheath Special: Mounting in SS (prepared)											
Temp. Ranges	Medium [°C] Storage [°C]	-10 ... 70 -25 ... 70											
Materials	Housing Diaphragm Seals Cable Sheath	1.4571 Ceramics Al2O3 96 % / Others: on request Viton (FKM) / Option: EPDM PVC gray / PUR black / FEP											
Miscellaneous	Current Consumption Ingress Protection Weight	< 30 mA IP68 (DIN 40 050) approx. 400 g (without cable)											
Accessories		Mounting flange made of PVC grey DN10/PN10 Mounting clamp Stainless Steel											



Type UPA2-LMK 358

Dimensions (in mm)

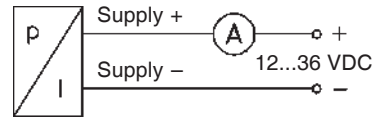


Connection chart

Wiring	Electrical connections
	Cable colours acc. to DIN 47100
2-wire system: Supply + Supply - Earth	white brown Cable shield

Electrical connection

2-wire: 4...20 mA



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Barksdale Level Probes

Order number example

Type	Series	Unit	Measuring range	Output signal	Sealing	Electrical connection	Cable length	Options
UPA2	LMK 358	bar	1000	1	1	1	005	

Your order number

UPA2	LMK 358							
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Specifications are subject to changes without notice.

Unit	Measuring range			Output signal	Sealing	Electrical connection	Cable length [m]	Options
	[bar]	[mWC]						
bar mWC	0,06	0,6	0600	(1) 4... 20 mA 2-wire	(1) Viton (3) EPDM	(1) PVC-cable	XXX (e. g.: 5 m = 005)	(6) Mounting in stainless steel tube (prepared)
	0,1	1,0	1000					
	0,25	2,5	2500					
	0,4	4,0	4000	(E) 4... 20 mA 2-wire Ex-protection II 1 G EExia IIC T4	(2) PUR-cable			
	0,6	6,0	6000					
	1,0	10	1001					
	1,6	16	1601					
	2,5	25	2501					
	4,0	40	4001					
	6,0	60	6001					
	10	100	1002					
	16	160	1602					
	20	200	2002					
				(3) FEP-cable				

Submersible Level Transmitter
made out plastic, for aggressive media, ø 40 mm

Type UPA2-LMK 858

Capacitive Ceramic Sensor
Hydrostatic Level Measurement
1 mWC up to 10 mWC

The level transmitter UPA2-LMK 858 has been developed for continuous level measurement above all in aggressive media as acids and lyes. These extreme operation conditions are possible by using plastics highly resistant against chemicals. Utilization in more viscous media as for example sludge is possible because of the flush diaphragm.

For sealing and cable different materials are available. A cable protection, available in two versions, is essential for application of the LMK 858 in aggressive media.

Features

- ceramic pressure sensor, high accuracy
- high resistance against electrical faults caused by incorrect wiring, short-circuit and overvoltage
- cable with integrated air tube for atmospheric reference
- transmitter and cable assembly plugged
- use in more viscous media possible due to flush diaphragm
- different mounting alternatives

Applications

- environmental technology: sewage treatment, water supply
- level measurement in open tanks with aggressive liquids
- chemical and pharmaceutical industries
- galvanic coating



Technical Data

Input Pressure Range	Press. Range PN [bar] gauge	0,06	0,1	0,25	0,4	0,6	1	1,6	2,5	4	6	10
	Filling Height FH [mWC]	0,6	1,0	2,5	4	6	10	16	20	40	60	100
	Overpressure Pmax [bar]	2	2	2	4	4	7	7	15	25	25	40
Supply	Voltage [VDC]	12 ... 36										
Output Signal	Standard:	2-Wire System, current: 4 ... 20 mA										
Performance	Accuracy according to IEC 60770 - Limit Point Adjustment (Nonlinearity, Hysteresis, Repeatability): Standard	≤ ± 0.35% FSO										
	Permissible Load [Ω]	Current 2-Wire: [UB (V) - 12V] / 0.02 A										
	Influence Effects Supply :	≤ ± 0.05% FSO / 10 V, Load: ≤ ± 0.05% FSO / kΩ										
Thermal Effects		Tolerance Band Offset and Span within Compensated Range: 0 ... 70°C: < ± 1.0 % FSO										
Electrical Connection		Cable with integrated air tube for atmospheric reference PVC-/PUR-/FEP-Sheath Other cable types on request										
Temp. Ranges	Medium [°C]	0 ... 50 °C										
	Storage [°C]	-10 ... 50 °C										
Cable Protection		Standard: without; Special: PP-pipe (flexible), PVC-pipe (hard)										
Materials	Housing	PVC Grey										
	Diaphragm	Ceramics Al2O3 96 % / Option: PTFE foil										
	Sealing	Viton (FKM) / Option: EPDM										
	Cable Sheath	PVC Grey / PUR Black / FEP										
Miscellaneous	Current Consumption	< 30 mA										
	Ingress Protection	IP68 (DIN 40 050)										
	Weight	approx. 400 g (without cable)										
Accessories		Mounting flange PVC Grey DN10 / PN10; Mounting clamp PVC										

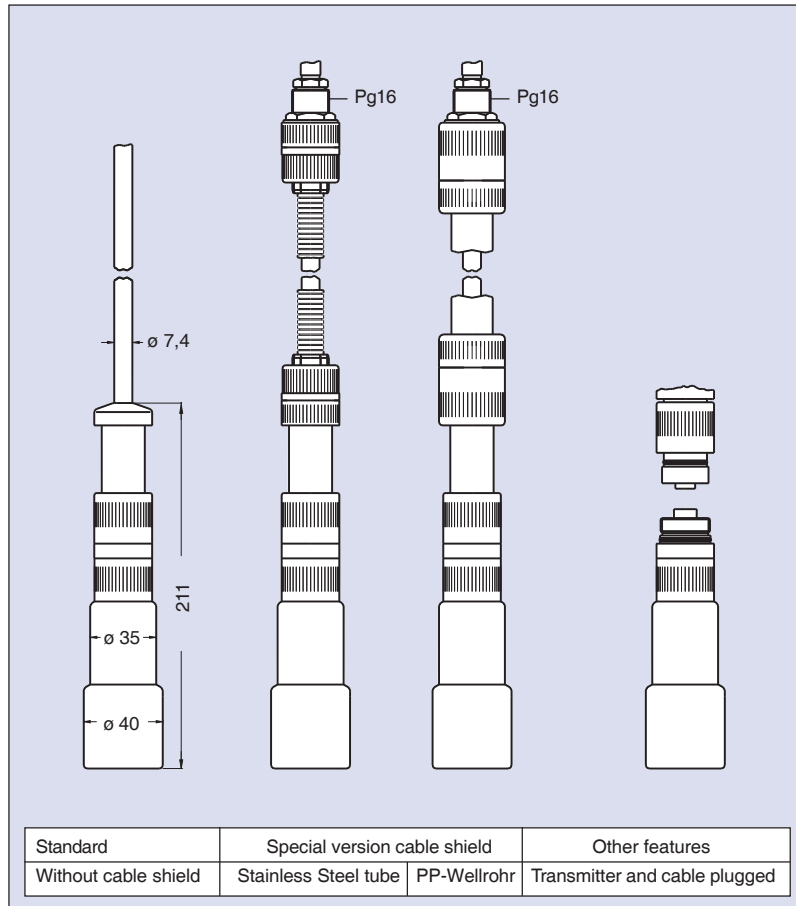
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Barksdale Pegelsonden

Technische Änderungen vorbehalten.

Type UPA2-LMK 858

Dimensions (in mm)

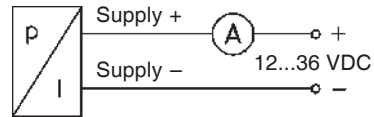


Connection chart

Wiring	Electrical connections
	Cable colours acc. to DIN 47100
2-wire system: Supply + Supply - Earth	white brown Cable shield

Electrical connection

2-wire: 4...20 mA



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Barksdale Level Probes

Order number example

Type	Series	Unit	Measuring range	Output signal	Sealing	Electrical connection	Cable length	Options
UPA2	LMK 858	bar	1000	1	1	1	005	

Your order number

UPA2	LMK 858							
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Specifications are subject to changes without notice.

Unit	Measuring range			Output signal	Sealing	Electrical connection	Cable length [m]	Options
	[bar]	[mWC]						
bar mWC	0,06	0,6	0600	(1) 4... 20 mA 2-wire	(1) Viton	(1) PVC-cable (2) PUR-cable (with air tube) (3) FEP-cable	XXX (e. g.: 5 m = 005)	(2) Cable shield PP-Wellrohr (6) Cable shield PVC-Wellrohr
	0,1	1,0	1000					
	0,25	2,5	2500		(3) EPDM			
	0,4	4,0	4000					
	0,6	6,0	6000					
	1,0	10	1001					
	1,6	16	1601					
	2,5	25	2501					
	4,0	40	4001					
	6,0	60	6001					
10	100	1002						

**Submersible Level Transmitter
made out of CuNi-alloy, seawater-proof**

Type UPA2-LMK 457-GL

**Capacitive Ceramic Sensor
Hydrostatic Level Measurement
0,6 mWC up to 200 mWC**

The hydrostatic level-probe UPA2-LMK 457-GL was designed for hard conditions especially for navigations- or offshore-applications.

Due to the different materials such as stainless steel 1.4571 or the special copper-nickel-alloy in combination with several mounting types, the LMK 457 covers all applications in navigations- and offshore business. Usage with nearly every occurring media and various applications appearing in this field is possible.

Features

- Accuracy acc. to IEC 60770 0,25% / 0,35% FSO
- Level probe made of stainless steel 1.4571 or copper-nickel-alloy (CuNiFe)
- Excellent resistance against seawater (material: CuNiFe)
- Mounting in tanks as probe with cable, with stainless steel pipe or with mounting bracket
- Mounting outside the tank with flange DN25 or DN40
- Due to quasi-flush diaphragm even suitable for high viscous media
- Excellent linearity, small thermal effect
- High resistance against electrical faults (incorrect wiring, short-circuit and overvoltage)
- Rugged and reliable
- Optional: II 1 G EEx ia IIC T4

Applications

- Ballast container
- Fuel and oil tanks
- Service and waste water



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Barksdale Pegelsonden

Technical Data

Input Pressure Range	Press. Range P _N [bar] rel. Filling Height FH [mWC] Overpressure P _{max} [bar]	0,06 0,1 0,25 0,4 0,6 1 1,6 2,5 4 6 10 20 0,6 1,0 2,5 4 6 10 16 20 40 60 100 200 2 2 2 4 4 7 7 15 15 25 40 60
Supply	Voltage [VDC]	12 ... 36, Optional: Ex-protection: 12 ... 28
Output Signal	Standard	2-wire system, current: 4 ... 20 mA
Performance	Accuracy according to IEC 770 - Limit Point Adjustment (Nonlinearity, Hysteresis, Repeatability): Standard: Permissible Load [Ω] Influence Effects	≤± 0,35% FSO, Optional: ≤± 0,25% FSO Current 2-wire: [UB (V) - 12V] / 0,02 A Supply: ≤ ± 0,05% FSO / 10 V, Load : ≤ ± 0,05% FSO / kΩ
Option Ex-protection II 1 G EEx ia CII T4		Safety relevant data: U _i = 28 V; I _i = 93 mA; P _i = 660 mW
Long Term Stability		Standard: ≤ ± 0,1% FSO / Year
Thermal Effects		Tolerance Band Offset and Span: < ± 1 % FSO ii in Compensated Range: 5 ... 85 °C
Temp.- Range	Media Storage	-25 ... 85 °C -40 ... 125 °C

Technische Änderungen vorbehalten.

Type UPA2-LMK 457-GL

Technische Daten

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Barksdale Level Probes

Mechanical Stability	Vibration acc. to IEC 60 068-2-6	
Electrical Connection	Special cable with integrated air tube for atmospheric reference	
Cable Protection	Standard Optional	without cable protection Stainless steel pipe (available as compact product with stainless steel pipe with a total length up to 2m)
Materials	Housing Diaphragm Seals Cable Sheath	Stainless steel 1.4571 Option seawater resistant: Copper-Nickel-Alloy (CuNi10Fe1Mn) Others: On Request Ceramics Al ₂ O ₃ 96 % Viton (FKM) / Others: On Request PUR black, seawater resistant, halogen free, temperature resistant up to +125°C, Others: On Request
Miscellaneous	Ingress Protection Weight	IP68 (DIN 40 050) appr. 400 g (without cable)
Mounting Accessories (Not part of the supply)	Mounting clamp made of stainless steel Mounting flange for fixing submerge transmitter made of stainless steel galvanized DN25 / PN16	

Type Overview

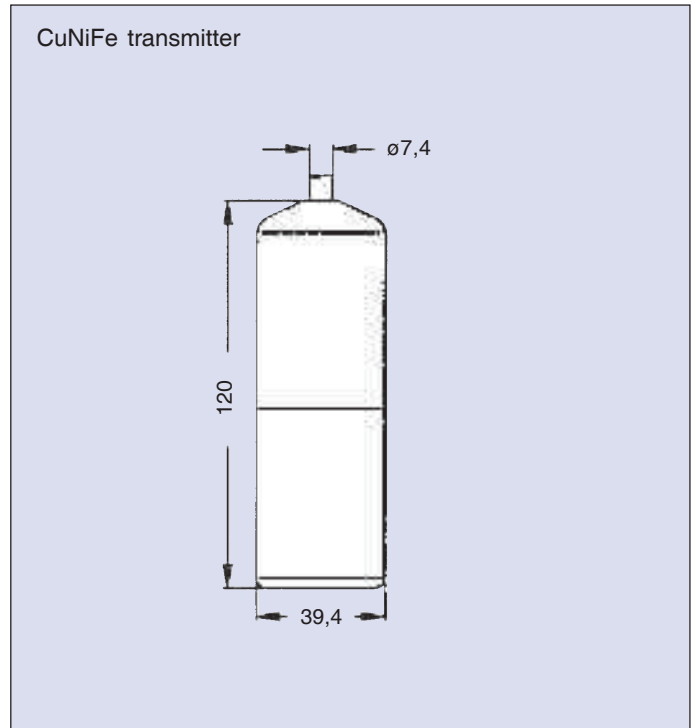
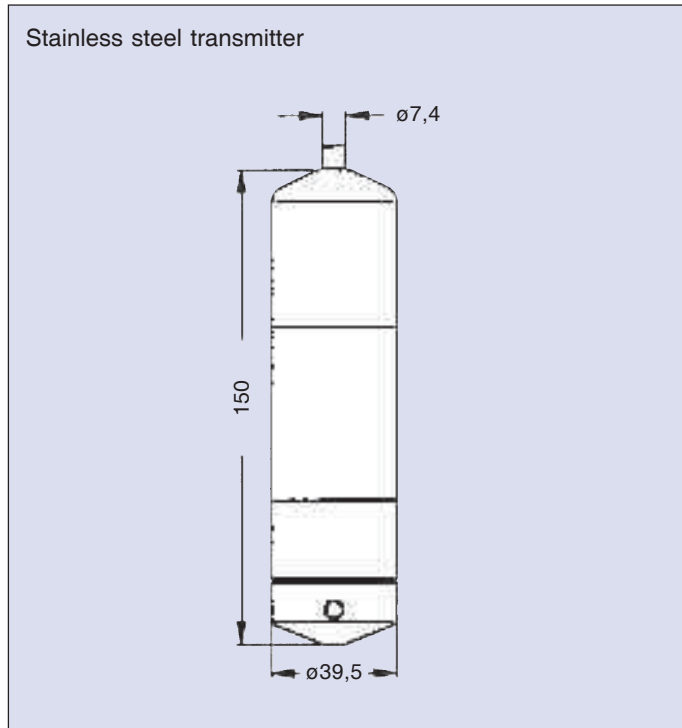
Specifications are subject to changes without notice.

	Housing Material	
	Stainless steel 1.4571	Copper-Nickel-Alloy CuNiFe
Type of construction		
Submerge transmitter	X	X
Flange transmitter	X	
Options / Special versions		
Intrinsic safety	X	X

**Submersible Level Transmitter
made out of CuNi-alloy, seawater-proof**

Type UPA2-LMK 457-GL

Dimensions (in mm)

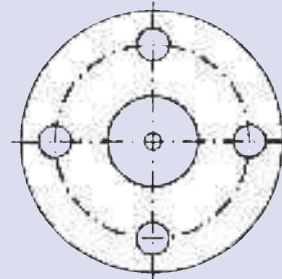


Flange types (only stainless steel version)

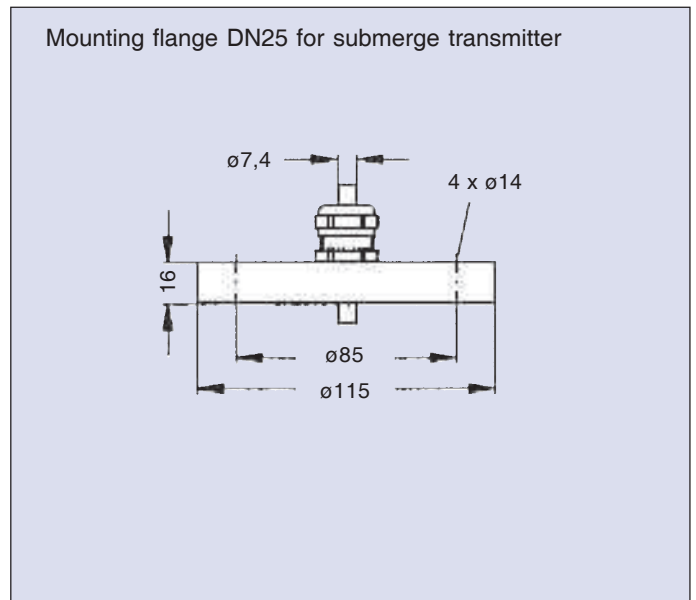
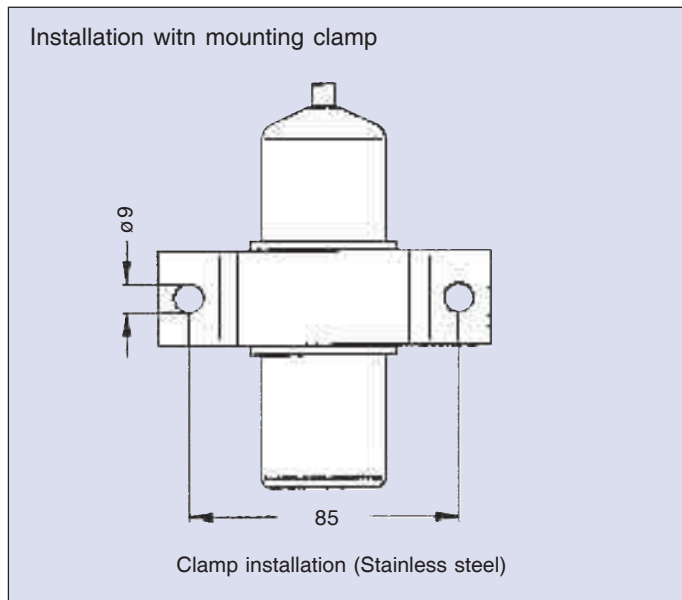


Side view

Dimensions in mm		
	DN25	DN40
b	18	18
k	85	110
D	115	150
d	14	18



Top view



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Barksdale Pegelsonden

Technische Änderungen vorbehalten.

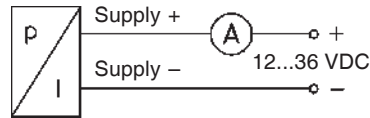
Type UPA2-LMK 457-GL

Connection chart

Wiring	Electrical connections
	Cable colours acc. to DIN 47100
2-wire system: Supply + Supply - Earth	white brown Cable shield

Electrical connection

2-wire: 4...20 mA



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Order number example

Type	Series	Unit	Measuring range	Housing material	Type of construction	Output signal	Sealing	Electrical connection	Accuracy	Cable length
UPA2	LMK 457-GL	bar	1000	1	3	1	3	4	2	003

Your order number

UPA2	LMK 457-GL									
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Barksdale Level Probes

Specifications are subject to changes without notice.

Unit	Measuring range			Housing material	Type of construct.	Output signal	Sealing	Electrical connection	Accuracy	Cable length [m]
	[bar]	[mWC]								
bar	0,06	0,6	0600	(1)	(1)	(1)	(1)	(4)	(3)	XXX
mWs	0,1	1,0	1000	Stainless steel 1.4571	Submerge transmitter	4... 20 mA 2-wire	Viton (FKM)	Special PUR-cable	0,35% Standard	(e. g.: 3 m = 003)
	0,25	2,5	2500							
	0,4	4,0	4000							
	0,6	6,0	6000	(K) Copper-Nickel-alloy CuNiFe	(3) Flange transmitter DN25 / PN16 ¹⁾	(E) 4... 20 mA 2-wire Ex-protect. II 1 G EExia IICT4	(3) EPDM	(X) Others	(2) 0,25% Option	
	1,0	10	1001							
	1,6	16	1601							
	2,5	25	2501							
	4,0	40	4001							
	6,0	60	6001							
	10	100	1002							
16	160	1602								
20	200	2002	(4) Flange transmitter DN40 / PN16 ¹⁾							

¹⁾ not in combination with material copper-nickel-alloy (CuNiFe)

Accessories

Order number Description

916-0366	Mounting clamp made of stainless steel
906-0812	Mounting flange for fixing submerge transmitter made of stainless steel galvanized DN25 / PN16

Stainless Steel Pressure Transmitter for Level Measuring

Type UPA2-DMP 457-GL

Industrial Pressure Transmitter for Navigation- and Offshore-Applications

The pressure transmitter UPA2-DMP 457-GL was designed for use in applications with high requirements respectively environmental resilience, mechanical shock and vibrations or dynamic stress. Among the high accuracy the pressure transmitter distinguish on the excellent long term stability.

Features

- Stainless steel sensor (1.4571 resp. 1.4401)
- Pressure port: inch- and NPT-thread
- Pressure ranges 0 ... 100 mbar up to 0 ... 600 bar
- Accuracy acc. to IEC 60770 0,25% / 0,35% FSO
- Output signal 4 ... 20 mA / 2-wire
- excellent long term stability
- high resistance against electrical faults (caused by incorrect wiring, short-circuit and overvoltage)
- rugged and reliable, long operating life
- Optional: II 1 G EEx ia IIC T4 (TÜV 99 ATEX 1504 X)

Applications in navigation / offshore:

- Diesel engines
- Gears
- Compressors
- Pumps
- Boilers
- Elevators

Technical Data

Low Pressure Range [bar]

Nominal Press. PN rel	-1...0	0...0,1	0...0,25	0...0,4	0...0,6	0...1,0	0...1,6	0...2,5	0...4	0...6	0...10	0...16	0...25
Nominal Press. PN abs	-	-	-	-	0...0,6	0...1,0	0...1,6	0...2,5	0...4	0...6	0...10	0...16	0...25
Overpressure P _{max}	3	1	1	1	3	3	6	6	20	20	20	60	100

High Pressure Range

Nominal Press. PN ¹⁾	0 ... 40	0 ... 60	0 ... 100	0 ... 160	0 ... 250	0 ... 400	0 ... 600
Overpressure P _{max}	140	140	340	340	600	600	1000

Supply Voltage	12 ... 36 V DC, Optional Ex-protection: 12 ... 28 V DC
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Output Signal	Standard: 2-wire, current: 4 ... 20 mA
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Performance Accuracy according to IEC 60770 - Limit Point Adjustment (Nonlinearity, Hysteresis, Repeatability):

Standard:	≤ ± 0,35% FSO ²⁾ , Optional: ≤ ± 0,25% FSO ³⁾
Permissible Load [Ω]	Current 2-wire: [UB (V) - 12V] / 0,02 A
Influence effects	Supply: ≤ ± 0,05% FSO / 10 V Load: ≤ ± 0,05% FSO / kΩ
Long Term Stability	≤ ± 0,2% FSO / Year

Option Ex-protection	(II 1 G EEx ia CII T4) Safety relevant data: U _i = 28 V; I _i = 93 mA; P _i = 660 mW
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Thermal Effects

Nominal Press. PN [bar]	-1...0	0...0,1	0...0,25	0...0,4	0...0,6	0...1,0	0...1,6	0...2,5	0...4	0...6	0...10	0...16	0...25
Tol. band [±% FSO] ⁴⁾ im	<0,75	<2,0	<1,5	<1,0	<1,0	<1,0	<1,0	<1,0	<1,0	<0,75	<0,75	<0,75	<0,75
Compens. Range [°C]	0...70	0...50	0...50	0...70	0...70	0...70	0...70	0...70	0...70	0...70	0...70	0...70	0...70
High Pressure Range	(P _N ≥ 40 bar) ≤ 1% FSO												

Temperature Ranges [°C]

Medium	-25 ... 125
Electronic/Environment	-25 ... 85
Storage	-40 ... 125

Ingress Protection

Standard IP65	GL-qualified male and female plug DIN 43650, Optional IP67: Cable gland with 2 m cable
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Mechanical Connection

Standard	G ½ DIN EN 837-1/-3 (DIN 16288), Optional G ½ " NPT, G ½ DIN 3852 flush diaphragm
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¹⁾ measurement starts with ambient pressure,

²⁾ Nominal pressure P_N 0,1 ... 0,4 bar: ≤ ± 0,50% FSO

³⁾ Nominal pressure P_N > 0,4 bar

⁴⁾ Tolerance band for offset and span



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Barksdale Pegelsonden

Technische Änderungen vorbehalten.

Type UPA2-DMP 457-GL

Materials

Housing + Press. Port	Stainless steel 1.4571
Diaphragm	Stainless steel 1.4404
Seals	Standard: Viton (FKM), Optional: welded version (G 1/2, EN 837-1/-3)

Miscellaneous

Current Consumption	Signal output current <30 mA
Weight	appr. 120 g
Mounting Position	any ¹⁾
Operational Life	>100 x 10 ⁶ cycles

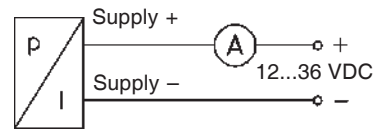
¹⁾ Transmitters are calibrated in vertical position, thread port showing down. Changing installation position may cause a slight offset shift with pressure ranges ≤1 bar.

Connection chart

2-wire system:	DIN 43650 (GL)	Cable gland with 2 m cable
Supply +	1	white
Supply -	2	brown
Ground	Ground pin	Cable shield

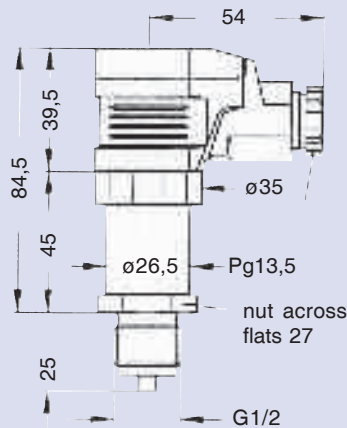
Electrical connection

2-wire: 4...20 mA

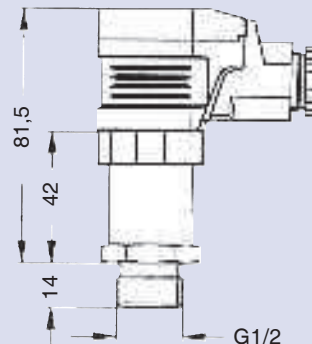


Dimensions (in mm)

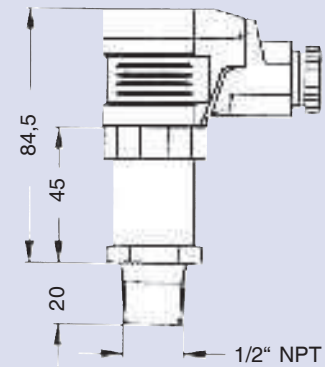
Standard G1/2 EN 837-1/-3



Option G1/2 flush diaphragm



Option 1/2" NPT



Order number example

Type	Series	Unit	Measuring range	Output signal	Accuracy	Electrical connection	Mechanical connection	Sealing
UPA2	DMP 457-GL	590	1000	1	2	1	N	2

Your order number

UPA2	DMP 457-GL							
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Unit	Meas. range [bar.....mm]	Meas. range [bar.....mm]	Output signal	Accuracy	Electrical connection	Mechanical connection	Sealing
(590) relative	0,1 1000 0,25 2500 0,4 4000	16 1602 25 2502 40 4002	(1) 4... 20 mA 2-wire	(3) 0,35% Standard	(1) Plug DIN 43650 (GL-qualified)	(2) G 1/2 DIN EN 837-1/-3 (DIN 16288)	(1) Viton (FMK) / NBR (at PN ≥40 bar)
(591) absolute	0,6 6000 1,0 1001 1,6 1601 2,5 2501 4,0 4001 6,0 6001 10 1002	60 6002 100 1003 160 1603 250 2503 400 4003 600 6003 1...0 ... X102	(E) 4... 20 mA 2-wire Ex-protection II 1 G EExia IIC T4	(5) Option 0,5% (at PN ≤ 0,4 bar) (2) Option 0,25% (at PN > 0,4 bar)	(4) Cable gland with 2 m cable	(N) 1/2 " NPT (F) G 1/2 DIN 3852 flush diaphragm	(2) without, welded version (only G1/2 EN837-1/3)

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Barksdale Level Probes

Specifications are subject to changes without notice.

Der schnellste Weg zu mehr Informationen:

Für jede unserer Produktgruppen gibt es einen ausführlichen Katalog. Um Ihnen schnellstmöglich Fragen zu technischen Details zu einem oder mehreren unserer Produkte beantworten zu können, haben wir den untenstehenden Fax-Vordruck für Sie vorbereitet. Einfach kopieren, ausfüllen und absenden - Sie erhalten umgehend die gewünschten Unterlagen!

Fax an : **Barksdale GmbH**
 Dorn-Assenheimer Strasse 27
 D-61203 Reichelsheim
Fax: +49 (0) 60 35 - 9 49-111

Absender: Vor- und Zuname :
 Firma :
 Abteilung :
 Strasse / Postf. :
 PLZ / Ort :
 Tel.-Durchwahl :
 Fax :
 e-mail :
Datum :

Bitte senden Sie mir ausführliche Informationen über:

- Mechanische Druckschalter
- Elektronische Drucksensoren
- Elektronische Druckschalter
- Schwimmerschalter
- Kontinuierliche Tankfüllstandmessung
- Pegelsonden
- Bypass-Niveauanzeiger
- Strömungswächter
- Mechanische Temperaturschalter
- Elektronische Temperatursensoren
- Elektronische Temperaturschalter
- Scherschluss- / Luftfeder-Ventile

Bitte senden Sie mir die Barksdale Produkt-CD mit allen verfügbaren Informationen über die gesamte Produktpalette (PDF-Format).

The fastest way to more information:

... just complete the order form below and fax it!

Fax to : **Barksdale GmbH**
Dorn-Assenheimer Strasse 27
D-61203 Reichelsheim / Germany
Fax: +49 (0) 60 35 - 9 49-111

From : Name :
Company :
Department :
Street / P.O.Box :
Post Code / City :
Telephone :
Fax :
e-mail :

Date :

Please send me detailed information about:

- Mechanical Pressure Switches
- Electronic Pressure Sensors
- Electronic Pressure Switches
- Level Switches
- Continuous Tank Level Indicating Systems
- Level Probes
- Bypass Level Indicating Systems
- Flow Switches
- Mechanical Temperature Switches
- Electronic Temperature Sensors
- Electronic Temperature Switches
- Shear Seal- / Air Suspension Valves

Please send me the Barksdale product CD with all available information about the complete product range (format: PDF).

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Barksdale Level Probes

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Neben den in dieser Broschüre aufgeführten Pegelsonden bietet unser Programm noch weitere Produkte für den Bereich Mess-, Steuer- und Regeltechnik zur Messung und Überwachung von:

In addition to the Level Probes listed in this brochure, our product range includes various other instrumentation and control equipment to monitor, measure and control:

 **Druck / Pressure**

 **Temperatur / Temperature**

 **Niveau / Level**

 **Durchfluss / Flow**

Wir sind sicher, auch für Ihre Messaufgabe die richtige Lösung bieten zu können.

Sprechen Sie mit uns.

We have the right solution for your measuring tasks.

Just contact us.

Unsere Produkte/Our Products



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Barksdale Pegelsonden / Level Probes



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Technische Änderungen vorbehalten.
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