

Level Probe

BLP2

The level transmitter BLP2 is designed for continuous level measurement in water or waste water applications.

Two versions are available:

- a) with ceramic sensor
- b) with stainless steel sensor

accuracy according to IEC 60770:

0.5 % FSO (ceramic)

0.1 % / 0.35 % / 0.5 % FSO (stainless steel)

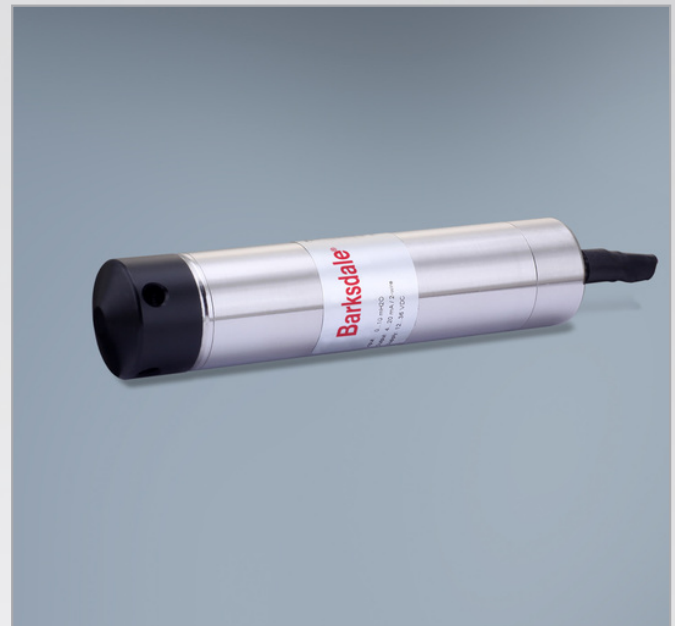
Suitable for all fluids which are compatible with media wetted materials. Different cable and elastomer materials can be offered according to the customer-specific operating conditions.

Features:

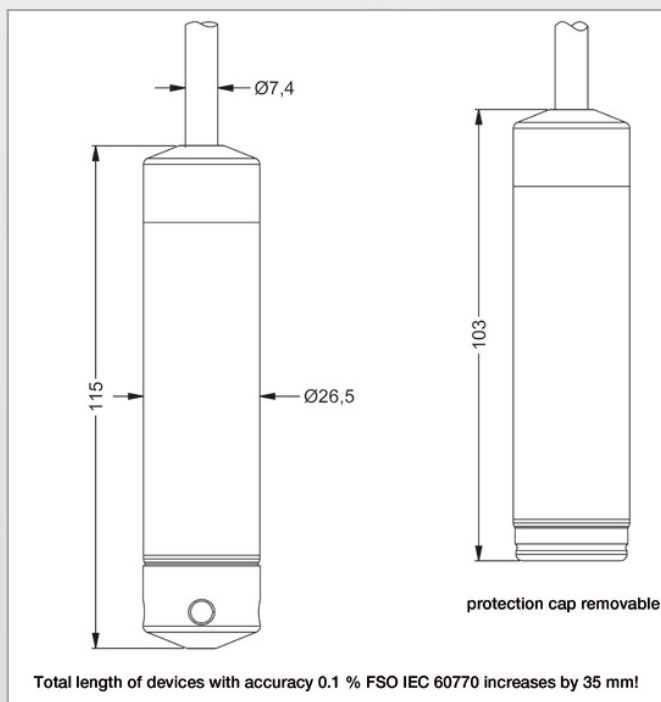
- ▶ Nominal pressure
 - from 0 ... 4 mH₂O up to 0 ... 250 mH₂O (ceramic)
 - from 0 ... 1 mH₂O up to 0 ... 250 mH₂O (stainless steel)
- ▶ Output signals
 - 2-wire: 4 ... 20 mA
 - 3-wire: 0 ... 20 mA / 0 ... 10 V
- ▶ Diameter 27 mm (ceramic), 26.5 mm (stainless steel)
- ▶ Good linearity
- ▶ Good long term stability

Applications

Ballast containers
Fuel and oil tanks
Service and waste water tanks



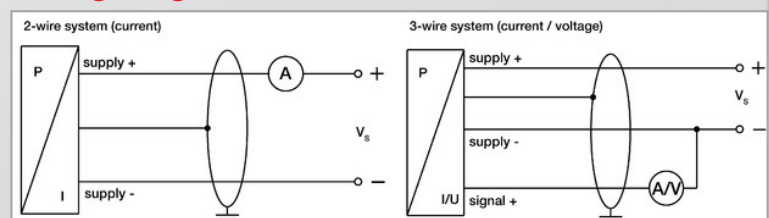
Dimensions (mm / inch)



Connection Chart

Pin configuration	Electrical connections Cable colors (IEC 60757)
Supply +	white
Supply -	brown
Signal + (only 3-wire)	green
Shield	green-yellow

Wiring Diagrams



Level Probe

BLP2

Ceramic Sensor

Technical Data

Materials: Housing: Seals: Diaphragm: Protection cap:	stainless steel 1.4404 (316L) FKM, EPDM ceramics Al ₂ O ₃ 96 % POM																																								
Protection class:	IP68																																								
Weight (without cable):	approx. 250 g																																								
Measuring range: Nominal pressure PN [bar] rel.: Level [mH ₂ O]: Overpressure [bar] Burst pressure ≥ [bar]	<table border="1"> <tr> <td>0.4</td><td>0.6</td><td>1</td><td>1.6</td><td>2.5</td><td>4</td><td>6</td><td>10</td><td>16</td><td>25</td> </tr> <tr> <td>4</td><td>6</td><td>10</td><td>16</td><td>25</td><td>40</td><td>60</td><td>100</td><td>160</td><td>250</td> </tr> <tr> <td>2</td><td>2</td><td>2</td><td>4</td><td>4</td><td>10</td><td>10</td><td>20</td><td>40</td><td>40</td> </tr> <tr> <td>4</td><td>4</td><td>4</td><td>5</td><td>5</td><td>12</td><td>12</td><td>25</td><td>50</td><td>50</td> </tr> </table>	0.4	0.6	1	1.6	2.5	4	6	10	16	25	4	6	10	16	25	40	60	100	160	250	2	2	2	4	4	10	10	20	40	40	4	4	4	5	5	12	12	25	50	50
0.4	0.6	1	1.6	2.5	4	6	10	16	25																																
4	6	10	16	25	40	60	100	160	250																																
2	2	2	4	4	10	10	20	40	40																																
4	4	4	5	5	12	12	25	50	50																																
Output signal: Standard: Option 3-wire:	2-wire: 4 ... 20 mA 3-wire: 0 ... 20 mA / 0 ... 10 V																																								
Accuracy:	≤ ±0.5% FSO																																								
Permissible load:	current 2-wire: $R_{\max} = [(V_S - V_S \text{ min}) / 0.02 \text{ A}] \Omega$ current 3-wire: $R_{\max} = 500 \Omega$ voltage 3-wire: $R_{\min} = 10 \text{ k} \Omega$																																								
Influence effects: Supply: Load:	≤ ±0.05% FSO / 10 V ≤ ±0.05% FSO / kΩ																																								
Response time¹	≤ 10 msec																																								
Electrical connection: Cable with sheath material ² :	PVC (-5 ... 70 °C) grey PUR (-10 ... 70 °C) black FEP ³ (-10 ... 70 °C) black																																								
Auxiliary energy: Standard: Option 3-wire:	Operating voltage: $V_S = 8 \dots 32 \text{ V DC}$ $V_S = 14 \dots 30 \text{ V DC}$																																								
Temperature error (offset and span):	≤ ±0.2 % FSO / 10 K in compensated range: -25 ... 70 °C																																								
Temperature range: Operating temperature: Storage:	-10 °C ... +70 °C -25 °C ... +70 °C																																								
Current consumption:	signal output current: max 25 mA signal output voltage: max. 7 mA																																								
Mounting accessories (not included in the scope of delivery):	Mounting clamp Mounting flange for fixing submersible level transmitter made of stainless steel DN25 / PN40																																								
CE-conformity:	EMC Directive: 2014/30/EU																																								

¹ accuracy according to IEC 60770 - limit point adjustment (non-linearity, hysteresis, repeatability)

² shielded cable with integrated air tube for atmospheric pressure reference

³ do not use freely suspended probes with an FEP cable if effects due to highly charging processes are expected

Level Probe

BLP2

Stainless Steel Sensor

Technical Data

Materials: Housing: Seals: Diaphragm: Protection cap:	stainless steel 1.4404 (316L) FKM, EPDM stainless steel 1.4435 (316L) POM-C
Protection class:	IP68
Weight (without cable):	approx. 200 g
Measuring range:	
Nominal pressure PN [bar] rel.:	0.1 0.16 0.25 0.4 0.6 1 1.6 2.5 4 6 10 16 25
Level [mH ₂ O]:	1 1.6 2.5 4 6 10 16 25 40 60 100 160 250
Overpressure [bar]	0.5 1 1 2 5 5 10 10 20 40 40 80 80
Burst pressure [bar]	1.5 1.5 1.5 3 7.5 7.5 15 15 25 50 50 120 120
Output signal / Supply	2-wire: 4 ... 20 mA 3-wire: 0 ... 20 mA
Accuracy: Standard:	nominal pressure < 0.4 bar: ≤ ± 0.5 % FSO nominal pressure ≥ 0.4 bar: ≤ ± 0.35 % FSO
Option:	all nominal pressure: ≤ ± 0.1 % FSO, on request
Permissible load:	current 2-wire: $R_{\max} = [(V_S - V_S \text{ min}) / 0.02 \text{ A}] \Omega$ current 3-wire: $R_{\max} = 500 \Omega$ voltage 3-wire: $R_{\min} = 10 \text{ k} \Omega$
Influence effects: Supply: Load:	≤ ± 0.05% FSO / 10 V ≤ ± 0.05% FSO / kΩ
Long term stability:	≤ ± 0.1 % FSO / year at reference conditions
Response time¹	≤ 10 msec (2-wire) ≤ 3 msec (3-wire)
Electrical connection: Cable with sheath material ² :	PVC (-5 ... 70° C) grey PUR (-10 ... 70 °C) black FEP ³ (-10 ... 70°C) black
Auxiliary energy: Standard: Option 3-wire:	Operating voltage: $V_S = 8 \dots 32 \text{ V DC}$ $V_S = 14 \dots 30 \text{ V DC}$
Temperature error:	
Nominal pressure PN [bar] :	< 0.40
Tolerance band [% FSO]:	≥ 0.40
in compensated range [°C]:	≤ ± 0.1
	≤ ± 0.75
	0 ... 70
Temperature range: Operating temperature: Storage:	-10 °C ... +70 °C -25 °C ... +70 °C
Current consumption:	signal output current: max 25 mA signal output voltage: max. 7 mA
Mounting accessories (not included in the scope of delivery):	Mounting clamp, Mounting flange for fixing submersible level transmitter made of stainless steel DN25 / PN40
CE-conformity:	EMC Directive: 2014/30/EU

¹ accuracy according to IEC 60770 - limit point adjustment (non-linearity, hysteresis, repeatability)

² shielded cable with integrated air tube for atmospheric pressure reference

³ do not use freely suspended probes with an FEP cable if effects due to highly charging processes are expected

Order Code

BLP2		Base model	
		Sensor type	
C		Ceramic sensor 0.5% FSO	
P		SS (Piezo) sensor 0.5/0.35% FSO	
		Range	
mWs	bar		
1	0.1	0...1 mWs (0...0.1 bar) - piezo sensor only	
1.6	0.16	0...1,6 mWs (0...0.16 bar) - piezo sensor only	
2.5	0.25	0...2,5 mWs (0...0.25 bar) - piezo sensor only	
4	0.4	0...4 mWs (0...0.4 bar)	
6	0.6	0...6 mWs (0...0.6 bar)	
10	1	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...40 mWs (0...4 bar)	
60	6	0...60 mWs (0...6 bar)	
100	10	0...100 mWs (0...10 bar)	
160	16	0...160 mWs (0...16 bar)	
250	25	0...250 mWs (0...25 bar)	
		Electrical Connection	
		PVxM	PVC cable x meter
		PUxM	PUR cable x meter
		Sealing	
		F	FKM
		Output	
		-	4-20 mA (2-wires)
		20	0-20 mA (3-wires)
		10	0-10 V (3-wires)
Order code example:			
BLP2	/ C	/ 6mWs	/ PU10M / F / 20