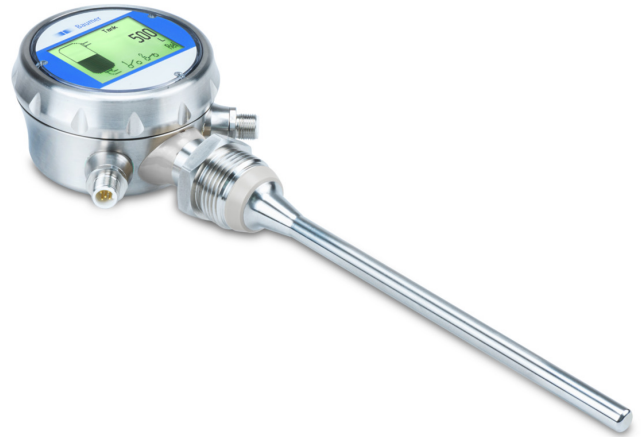


## Overview

- Potentiometric Level Transmitter
- IO-Link Dual Channel
- Compact, food compatible, hygienic design
- Wetted parts in acid-proof, stainless steel and PEEK
- 3-A approved / FDA and EHEDG compliant
- Defined empty registration
- Unaffected by strong adhesive media
- Configurable measuring range



## Technical data

### Performance characteristics

Measuring principle	Potentiometric level measurement
Max. measuring error	± 1 % FSR ,for media conductivity ≥ 50 µS ± 3 % FSR ,for media conductivity < 50 µS
Measuring range	20 ... 300 cm
Media characteristics	≥ 10 µS/cm ≤ 10 µS/cm, tests currently in progress for lower values
Step response time, T90	≤ 100 ms
Damping	≤ 60 s
Repeatability	0.2 % FSR , for rod length ≥ 500mm 1 mm , for rod length < 500mm

### Process conditions

Process temperature	-10 °C ... 115 °C , permanent < 140 °C , max. t < 30 min
Process pressure	≤ 16 bar

### Process connection

Connection variants	G 1 A hygienic
Mounting position	Any, top, bottom, side
Wetted parts material	AISI 316L (1.4404) PEEK Natura
Surface roughness wetted parts	Ra ≤ 0.8 µm Ra ≤ 0.4 µm, for rod length till 100 cm

### Ambient conditions

Operating temperature range	-20 ... 65 °C
Storage temperature range	-40 ... 85 °C
Degree of protection (EN 60529)	IP69K , with connector M12-A. 5-pin IP67 , with cable gland
Humidity	0 ... 95 % RH

### Ambient conditions

Vibration (sinusoidal) (EN 60068-2-6)	1.6 mm p-p (2 ... 25 Hz), 4 g (25 ... 100 Hz), 1 octave / min.
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### Switching output

Output type	PNP NPN Digital (push-pull) Off
Switching logic	High-Active Low-Active
Relays	2 relays included in the display
Current rating	100 mA , max.
Off leak current	< 100 µA
Short circuit protection	Yes

### Analogue output

Output signal	4 ... 20 mA
Accuracy	≤ 40 µA
Load resistance	500 Ω max.
Temperature drift	< 0.01 % FSR/K (± 1.6 µA/K)
Resolution	3 µA
Status signal empty	3.5 mA , programmable

### IO-Link interface

IO-Link version	1.1
Device profile	Smart Sensor Profile
IO-Link port type	Class A
Baud rate	38,4 kbaud (COM2)
SIO-mode	Yes
Process data (cyclic)	Process Value Device Status

#### Technical data

##### IO-Link interface

Adjustable data (acyclic)	Sensor Adjustment Switch parameters Analog Output Signal Adjustment Analog Output Signallimits (Minimum, Maximum, Alarm)
---------------------------	---

##### Housing

Style	Compact version FlexHousing, Ø80 mm
Overall size	Refer to section "Dimensional drawings"
Material	AISI 304 (1.4301)

##### Electrical connection

Connector (available for left side)	M12-A, 5-pin, stainless steel M16x1.5, stainless steel M20x1.5, stainless steel
Connector (available for right side)	M12-A, 4-pin, stainless steel M16x1.5, stainless steel M20x1.5, stainless steel

##### Power supply

Voltage supply range	18 ... 35 V DC
Current consumption (no load)	100 mA , max.
Power-up time	≤ 5 s
Reverse polarity protection	Yes

##### Factory settings

QTeach	Activated
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##### Compliance and approvals

EMC Emission	EN 61326, installed in a closed metal tank
EMC Immunity	EN 61326
Hygiene	3-A (pending) EHEDG (pending)

#### Display

##### General information

Panel type	FSTN Graphical LCD
Display range	-9999 ... 99999
Max. digit height	22 mm
Material	Polycarbonate

##### Ambient conditions

Operating temperature range	-30 ... 80 °C
Optimal readability temperature range	-10 ... 70 °C
Degree of protection (EN 60529)	IP67 IP69K

##### Input signal

Input signal from transmitter	Digital, 2-way for communication between transmitter and display
Update time	≤ 1 s , max. 0.3 s , typ.

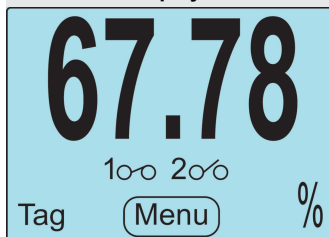
##### User configurable data

Error- / Warning-indication	Individually configurable display and backlight indication in white, green or red colour, steady or flashing light. Configurable limits over the range
Measuring unit	% mm cm m Inch Feet
User defined measuring unit	8 × 20 pixel matrix

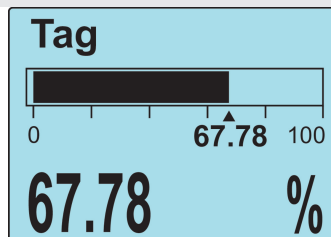
##### Relays

Contacts	2 x solid state relays
Max. load current	75 mA
Max. switching voltage	60 V

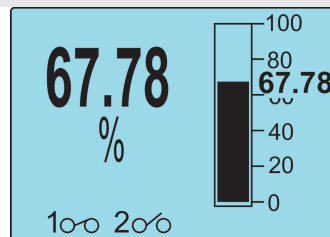
#### Selectable display views



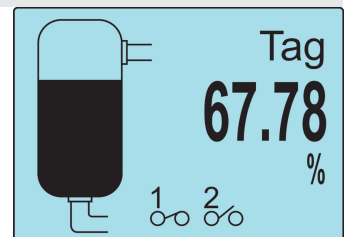
Filling level and additional values



Filling level and horizontal bar graph



Filling level and vertical bar graph



Filling level and tank illustration

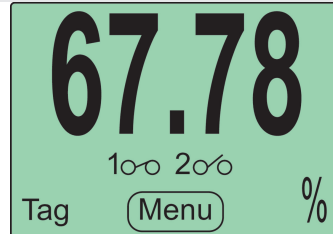
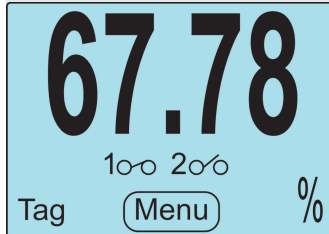
## PLP70H

Potentiometric level measurement

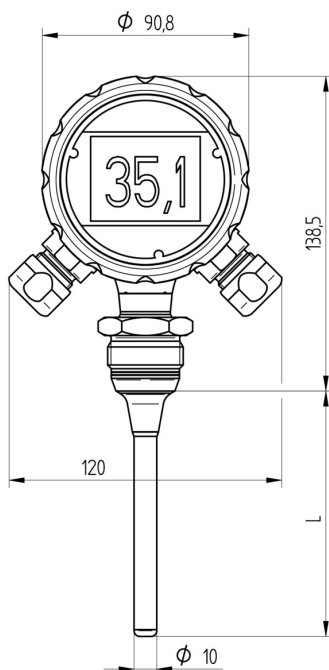
PLP70S-50###0##.D11#A040.3#3#

### Display

#### Selectable display views



### Dimensional drawings (mm)



G 1 A hygienic (BCID: A04), Length from 200 mm ... 3000 mm

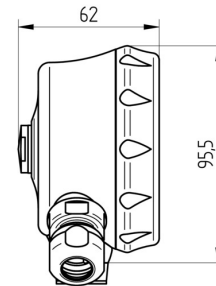
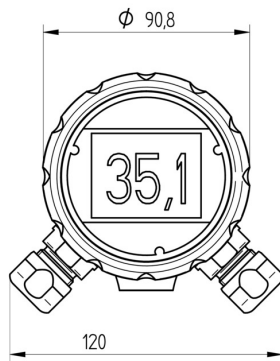
## PLP70H

Potentiometric level measurement

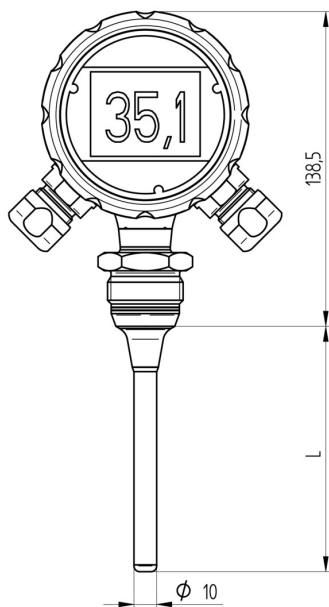
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### Dimensional drawings (mm)

#### Housing

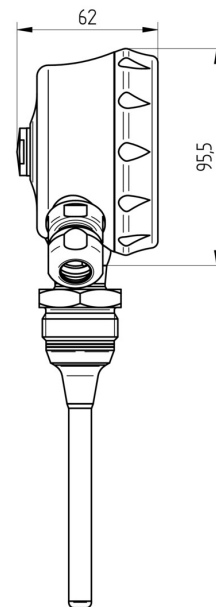


FlexHousing, available with or without DFON tochtscreen



FlexHousing with measuring rod

FlexHousing with bottom process connection



FlexHousing with measuring rod

## PLP70H

Potentiometric level measurement

PLP70S-50###0##.D11#A040.3#3#

### Electrical connection



#### Left side connection (front view): M12-A, 5-pin

Function	Description		Pin assignment
+Vs	Power supply +	18 ... 35 V DC	1
GND (0V)	Power supply -	18 ... 35 V DC	3
Iout+	Level +	4 ... 20 mA	5
Iout-	Level -	4 ... 20 mA	2
IO-Link/SW	IO-Link/SW		4

#### Right side connection (front view): M12-A, 4-pin

Function	Description	Pin assignment
R11	Relay 1	1
R12	Relay 1	2
R21	Relay 2	3
R22	Relay 2	4

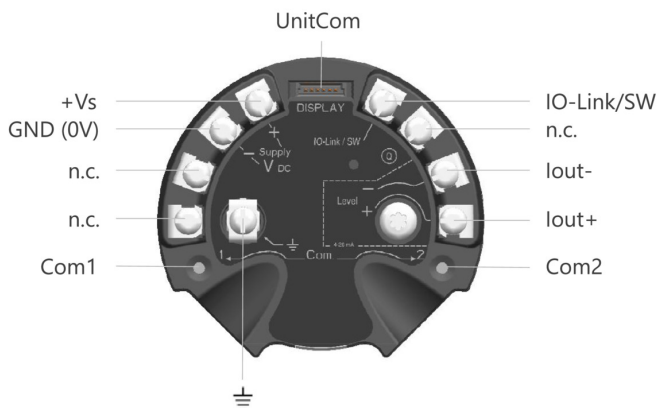
#### Left side connection (front view): Cable gland

Function	Description	Recommended wiring
+Vs	Power supply +	18 ... 35 V DC
GND (0V)	Power supply -	18 ... 35 V DC
Iout+	Level +	4 ... 20 mA
Iout-	Level -	4 ... 20 mA
IO-Link/SW	IO-Link/SW	BK

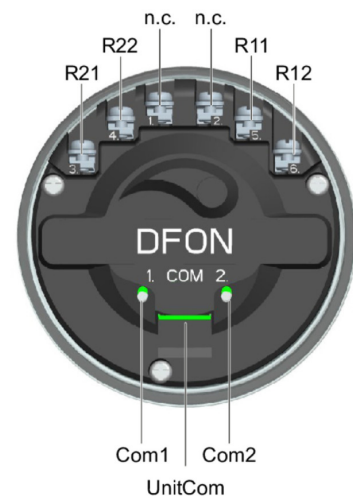
#### Right side connection (front view): Cable gland

Function	Description	Recommended wiring
R11	Relay 1	BN
R12	Relay 1	WH
R21	Relay 2	BU
R22	Relay 2	BK

#### Terminal assignment transmitter



#### Terminal assignment DFON display



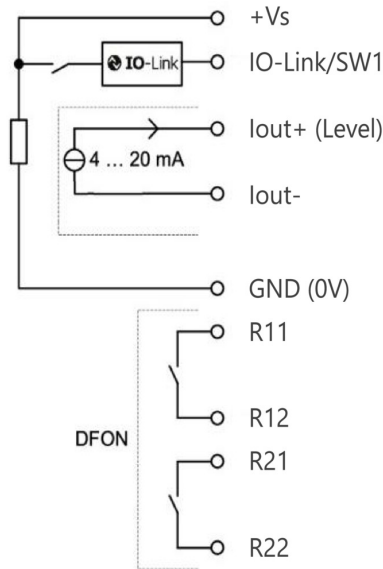
## PLP70H

Potentiometric level measurement

PLP70S-50###0##.D11#A040.3#3#

### Electrical connection

#### Equivalent circuit diagram



### Ordering information

Ordering key - Configuration possibilities see website

	PLP70H	-	5	0	###	0	#	#	.	D1	1	#	A040	.	3	#	3	#
<b>Product</b>	PLP70H																	
<b>Housing</b>																		
Bottom process connection				5														
<b>Version</b>																		
Straight version				0														
<b>Rod length (cm)</b>																		
20 - 300						20 -												
						300												
<b>Cable length (cm)</b>																		
No cable, compact version						0												
<b>Display</b>																		
Without display											1							
With display, with activated relays											4							
<b>Mounting position</b>																		
Bottom mounted												1						
Top mounted													2					
<b>Output signal</b>																		
IO-Link Dual Ch., 4 ... 20 mA V1												D1						
<b>Protection class</b>																		
IP67, IP69K													1					

# PLP70H

Potentiometric level measurement

PLP70S-50###0##.D11#A040.3#3#

## Ordering information

Ordering key - Configuration possibilities see website

PLP70H - 5 0 ### 0 # # . D1 1 # A040 . 3 # 3 #

### Electrical connection

1 x M12-A, 5-pin	1
2 x M16x1.5 cable gland	8
2 x M20x1.5 cable gland	B
1 x M12-A, 5-pin + 1 x M12-A, 4-pin	C
1 x M16x1.5 cable gland	F
1 x M20x1.5 cable gland	G

### Process connection

G 1 A hygienic (A04)	A040
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### Wetted parts material

PEEK / AISI 316L (1.4404)	3
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### Surface roughness

Ra < 0,8 µm	1
Ra < 0,4 µm	2
Electropolished, Ra < 0,8 µm	3
Electropolished, Ra < 0,4 µm	4

### Special approvals

3-A / EHEDG	3
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### Configuration

Factory settings	0
Customer-specific	1