PAQUIN SENSORS
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Hydrostatic Level Transmitter

- Wide measuring range up to 200 m (656 ft) of submersion
- Compact stainless-steel probe with ceramic sensor and internal overvoltage protection
- Output options include 4–20 mA current or 0–10 V voltage
- IP68 protection rating for permanent submersion
- Simple hanging installation with no calibration or setup required

About

The P110 hydrostatic level transmitter is a robust, stainless-steel sensor designed for precise liquid level monitoring in non-pressurized environments. It features a ceramic tensometric sensor and overvoltage-protected electronics housed in an IP68-rated body, making it ideal for long-term submersion. Designed with ease of use in mind, this unit is "plug and play" with selectable current (4–20 mA) or voltage (0–10 V) outputs. It is optimized for chemically neutral liquids and is well suited for industrial, environmental, and utility-based applications where reliable level measurement is critical.

Applications

- ✓ Freshwater
- ✓ Saltwater
- ✓ Wastewater
- ✓ Environmental Monitoring
- ✓ Agriculture and Irrigation
- ✓ Critical Utilities and Infrastructure
- ✓ More

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Build Your Part Number

Series P110

Example: P110BU5055CHCB

Series
P110

Variant - *select one (see dimensions page 3)*	
A	Maximum measuring range of 100 meters (328 feet)
B	Maximum measuring range of 200 meters (656 feet)

Output Type - *select one*	
I	Current (4 ... 20 mA)
U	Voltage (0 ... 10 V) (Available only for Variant A)

Measuring Range – *please specify in meters (see variant dimensions page 3)*	
XX	Measuring range in meters (Example: 25 meters = 25)
	Variant A available up to 100 meters (328') submersion, standard ranges are: 10, 25, 40, 60, 100 meters; custom lengths available Variant B up to 200 meters (656') submersion, standard ranges are: 1.0, 1.6, 2.5, 4, 6, 10, 25, 40, 60, 100 meters; custom lengths available

Cable Length - *select one*	
XX	Cable length in meters (Example: 45 meters = 45)

Accessories – *optional; will be quoted as a separate line item*	
CH	Cable hanger
CB	Non-hermetic connection box

Technical Parameters				
			Variant A	Variant B
Electrical	Supply voltage (current/voltage output)		10 ... 30 VDC	10 ... 30 VDC / 15 ... 30 VDC
	Output Type		4 ... 20 mA	4 ... 20 mA or 0 ... 10 V
	Maximal load resistance for current output (U = 24 VDC)		R_{max}= 675 Ω	
Materials	Probe housing		AISI 316L	
	Membrane		AISI 316L	Hastelloy C-276
	Hanging loop		n/a	Stainless steel
	Cable Isolation		Polyurethane	Polyurethane
	Transmitter Weight (without cable)		15.87 oz (cca 0.45 kg)	21.16 oz (cca 0.6 kg)
Environmental	Measuring Range		10 ... 100 meters H_2O	1 ... 200 meters H_2O
	Pressure permissible overload	Range 1 m H_2O	10x Range	40x Range
		Range 4 m H_2O		25x Range
		Other ranges		10x Range
	Basic error (of total range)	Range 1 m H_2O	0.5%	0.6%
		Range 4 m H_2O		0.3%
		Other ranges		0.2%
	Hysteresis, repeatability		0.05%	
	Long-term stability		0.1 % / Year or 1 cm H2O / Year	
	Temperature error		max. 0.04 % / K	
	Compensated temperature range (standard)		32 ... 77°F (0 ... +25°C)	
	Ambient temperature range (medium temperature)	Ranges > 20 m H2O	32 ... 122°F (0 ... +50°C)	-13 ... 167°F (-25 ... +75°C)
		Ranges ≤ 20 m H2O		-13 ... 122°F (-25 ... +50°C)
	Protection Class		IP68	

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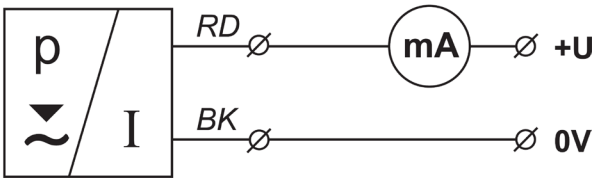
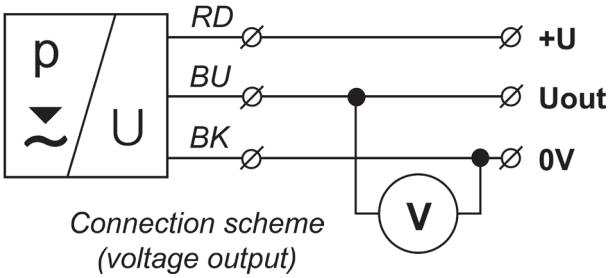
Electrical Connection and Dimensions

Electrical Connection

The transmitter is connected to the evaluation (control, display) units through the connecting cables. Connection scheme is shown on pictures. Electrical connections must be always done in voltage-free state! The power supply unit must be a source of safe voltage which can be a part of the evaluation or display device.



Connection scheme (current output)



Connection scheme (voltage output)

Wire color:

RD – Red
BU – Blue
BK – Black

⚠ Electrical connection can only be made in a voltage-free state!

In the event that the level transmitter is fitted with a shielded cable, it is necessary to ground the cable on the side of the power source for the event of a possible lightning electrical discharge in the vicinity of the transmitter.

In the event that the level transmitter is installed in an outdoor environment at a distance greater than 20 m from the outdoor switchboard, or from an enclosed building, it is necessary to supplement the electrical cable leading to the level transmitter with suitable overvoltage protection.

In case of strong ambient electromagnetic interference, paralleling of conductors with power distribution, or for distribution to distances over 30m, we recommend using a shielded cable and its grounding on the side of the power source.

Installation Instructions

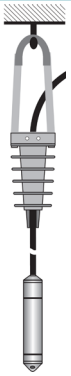
Installation is done by hanging the probe down into the measured area (tanks, boreholes). The probe is left hanging on the cable or is placed on the bottom. If the probe is hung deeper than 100 m, it is necessary to use a hanging hanger (only for Variant B) or cable hanger (see picture)

The cable includes an air compensation tubing (capillary), so the connection must be done in non-hermetic junction box.

When winding up the cable in the bundle it must have minimum diameter of 30 cm. The cable is not recommended to be shortened or otherwise mechanically modified.

In tanks where there are strong turbulences or waves, the probe should be placed in the stilling tube, behind the wall, or at least at the maximum possible distance from the source of turbulence.

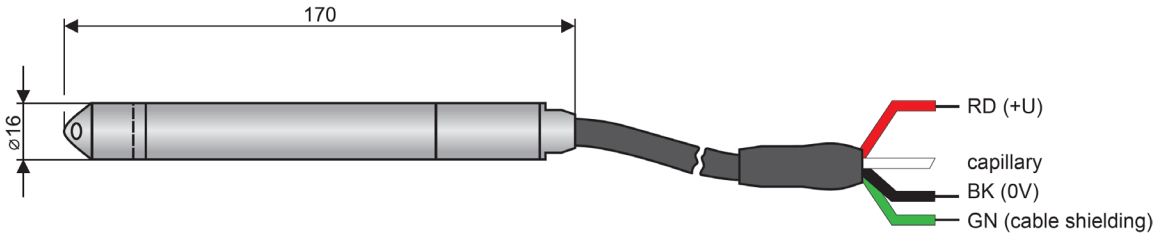
When using other liquid than water it is needed to make the output correction with respect to the density of the liquid, eventually consult the application with the manufacturer.



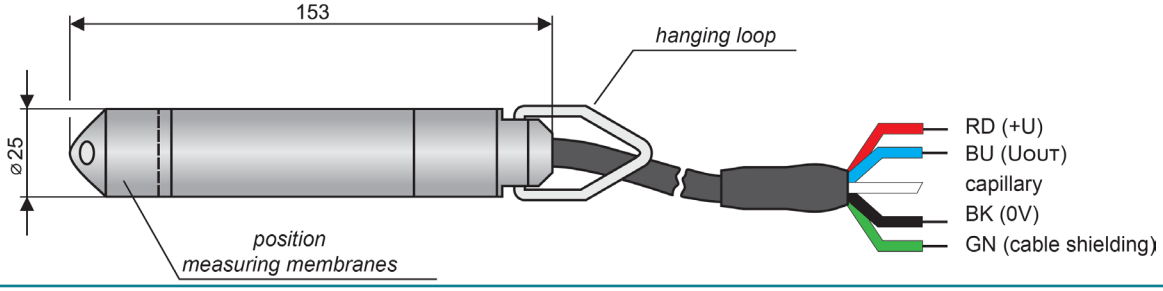
Cable Hanger "CH"

Dimensions

Variant A



Variant B



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Safety & Applications

Safety, Protection and Compatibility

Level transmitter P110 is equipped with protection against voltage polarity reversal, protection against current overload and protection against short term overvoltage.

Protection against dangerous contact is provided by low safety voltage according to 33 2000-4-41.

Electromagnetic compatibility is provided by conformity with standards EN 55022/B, EN 61000-4-2 to 6.

Packaging, Shipping and Storage

The P110 device is supplied packaged in a cardboard box that protects it against mechanical damage.

When handling and during transport, it is necessary to prevent impacts and falls.

The HLM electrical device must be stored in dry enclosed areas with humidity up to 85%, free of aggressive vapors at temperatures between -13°F and 158°F (-25°C and 70°C), and must be protected against the effects of weather.

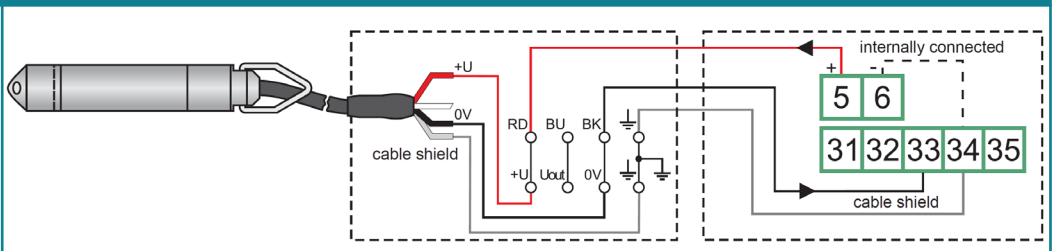
Range of Application

For continuous measurement of water level even slightly contaminated without coarse impurities in pressureless tanks, boreholes, wells, sumps, reservoirs and swimming pools. The measured water should be chemically neutral (pH 7.2 - 7.6) and should not contain increased amounts of chlorine. If the water is not chemically neutral, foreign bodies made of other metallic materials (especially copper or brass) must not be placed in the measured space. Failure to follow these guidelines may result in corrosive damage to the stainless-steel transmitter housing. Consult with the manufacturer if measuring liquids other than water.

Connection Examples

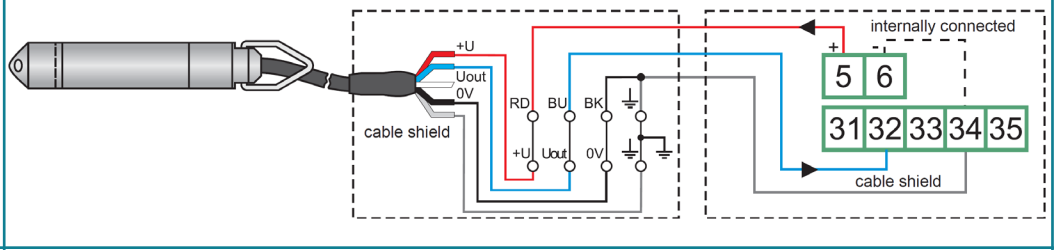
Connection of level transmitter P110 A/B with current output (4 ... 20 mA) to the unit using non-hermetic connection box

When using a connection box with integrated overvoltage protection, the sensor needs to be connected to the bottom series of terminals. This series of contacts is marked by label SENSOR.



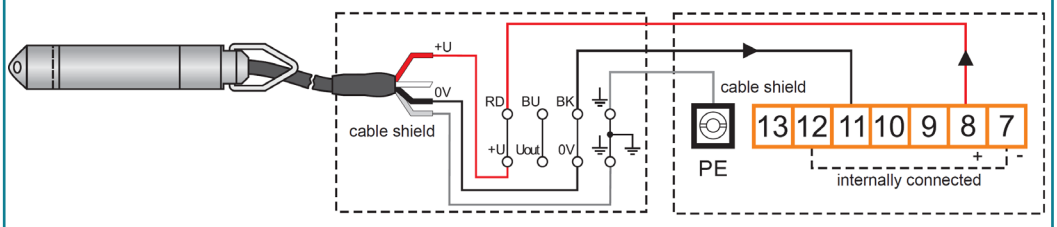
Connection of level transmitter P110 variant B with voltage output (0 ... 10 V) to the unit using non-hermetic connection box

When using a connection box with integrated overvoltage protection, the sensor needs to be connected to the bottom series of terminals. This series of contacts is marked by label SENSOR.



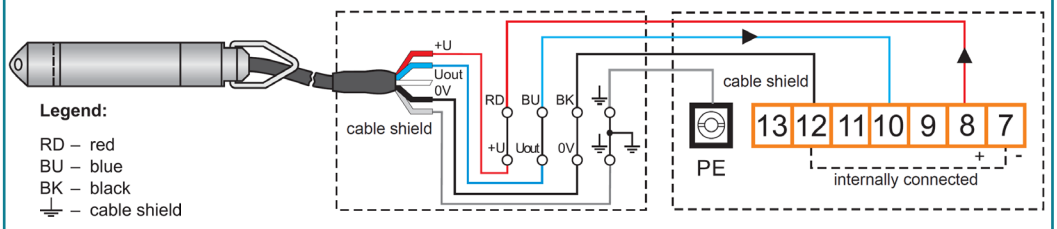
Connection of level transmitter P110 A/B with current output (4 ... 20 mA) to the unit using non-hermetic connection box

When using a connection box with integrated overvoltage protection, the sensor needs to be connected to the bottom series of terminals. This series of contacts is marked by label SENSOR.



Connection of level transmitter P110 variant B with voltage output (0 ... 10 V) to the unit using non-hermetic connection box

When using a connection box with integrated overvoltage protection, the sensor needs to be connected to the bottom series of terminals. This series of contacts is marked by label SENSOR.



Legend:

RD – red
BU – blue
BK – black
⏚ – cable shield

Additional Information

Paquin Sensors' product portfolio is designed to provide options to fit the most diverse range of specifications.

We collaborate with our customers to match the best product technologies with your unique application requirements.

Please contact us or call +1 (800) 831-8217 anytime to discuss your needs!