

## DATASHEET

## Pressure Level

## Submersible Level Transmitter For Deep Well and Borehole Model PWP414

### Applications

- Deep well and borehole measurement
- Surface water monitoring
- Ground water monitoring
- Environmental monitoring
- Control of pumping stations
- River & Dam water monitoring
- Narrow conduit or pipe installations

### Features

- Reliable, precise measurement, long-term stability
- Measuring range to 300m
- Slim body design  $\Phi$ 19mm diameter
- Germany pressure core 0.5%F.S.
- 316L stainless steel diaphragm and housing
- Robust and cost-effective
- IP68 water-proof

### Description

PWP414 is a submersible level transmitter specially designed with a slim 19mm diameter body, makes this an excellent choice for applications in boreholes, small diameter stilling wells, under ground&above ground water tanks with small tube mouth.

It equips with high quality Germany imported piezoresistive sensor core and 316L stainless steel diaphragm and housing. It's robust construction for durable long-term services. PWP414 provides high accurate water level measurement. It has a large scale temperature compensation that enable to measure level accurately over a wide temperature range. The measurement principle is stable and the technology is reliable. The ultra-high range can be customized up to 1,000 meters.

Welcome to contact us for your requirement.

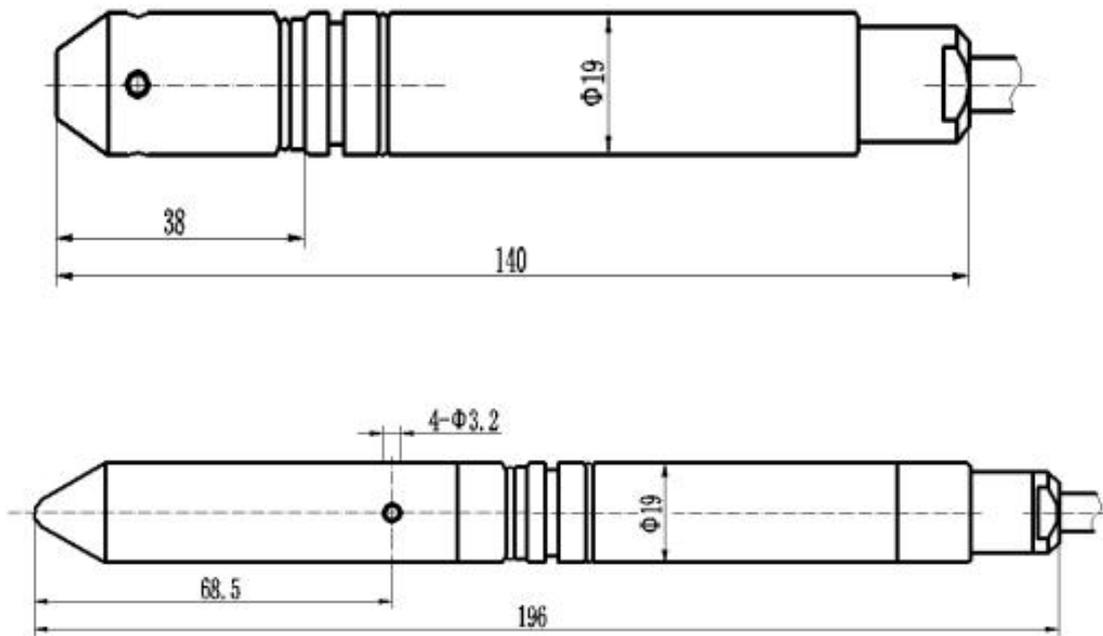


Submersible Level Sensor PWP414

## Specifications

<b>Model</b>	<b>PWP414</b>			
Pressure Type	Relative (gauge) /Absolute pressure			
Pressure Range	0m~0.5m...300m H <sub>2</sub> O/0-0.05 bar...30bar Optional max 1000m H <sub>2</sub> O			
Safe Overload	≤150%FS			
Burst Pressure	500%FS			
Electrical Connection	Directly outlet cable			
IP Rating	IP68			
Accuracy	±0.5%FS(Typical), ±0.25%FS, ±0.1%FS(optional) @25°C			
Signal Output & Power Supply	4-20mA(2 wires)	0.5-4.5V(3 wires)	0-5V(3 wires)	0-10V(3 wires)
	12-30VDC	5VDC	8-24VDC	12-30VDC
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	I <sup>2</sup> C	RS485 Modbus	HART	
	3.3 or 5VDC	5-30VDC	15-30VDC	
Response Time	≤3ms (10%~90%)			
Medium Compatible	Liquid compatible with SUS304, SS316L or ceramic material			
Load Resistance(2 wires)	R≤(U-10)/0.02-RD (U: Power supply, RD: Internal resistance in the cable)			
Total current consumption	Current signal(2wires): Max about 23mA Voltage signal(3wires): <5mA I <sup>2</sup> C(4wires): <1.3mA (Available to customize low consumption <5 μA) RS485(4wires): <5mA (Available to customize low consumption <1.1mA)			
Accuracy&Performance	0.1% Accuracy Class	0.25% Accuracy Class	0.5% Accuracy Class	
Non-linear ( %FS )	≤0.1	≤0.2	≤0.4	
Hysteresis ( %FS )	≤0.05	≤0.05	≤0.1	
Repeatability (%FS)	≤0.05	≤0.05	≤0.1	
Long-term Stability (%FS/year)	≤0.1	≤0.2	≤0.5	
Zero Temp Drift ( %FS/°C )	≤0.01	≤0.03	≤0.05	
Compensation Temp.	0°C~+50°C (typical), -10°C~+60°C (optional)			
Working Temp.	Media -30°C~+65°C, environmental -40°C~+70°C			
Storage Temp.	-40°C~+70°C			
Vibration Environment	10g (@10Hz~2000Hz)			
Impact Resistance	100g/11ms			
Service Life	>10 million load cycles (within measurement range)			
Explosion Proof	Exia II CT6(Optional)			
EMC Standard	EN IEC 61326-1:2021; EN IEC 61326-2:2021			
Cable material	3 choices according to applications: PE cable, PU cable or FEP cable			

## Dimensions and Drawings



\*Unit is mm. Above is typical structures. Other structures and dimensions can be customized.

## Electrical Connection

Directly outlet cable							
	Wire Color	Current (2wires)	Dual Current (3wires)	Voltage (3wires)	Dual Voltages (4wires)	IIC (4wires)	RS485 (4wires)
	Red	Vcc	Vcc	Vcc	Vcc	Vcc	Vcc
	Green	Iout	PIout	GND	GND	GND	GND
	Yellow	/	TIout	Vout	PVout	SCL	RS485A
	Blue	/	/	/	TVout	SDA	RS485B
	Black	PE	PE	PE	PE	PE	PE

## How to Order

**Example Part Number: 414[150]HGT1S2A1M1N150**

Model No.	PWP414	<b>414</b>
Measuring Range & Units	H=mH <sub>2</sub> O (0m~0.5m ... 300m) B=bar (0~0.05bar ...Max 30bar) P=Psi (0~1psi...Max 435psi) I=inWC (0~20inWC...Max 11800inWC) Directly write range in [] and mention the code, for example: [50]H=50m H <sub>2</sub> O	<b>[150]H</b>
Pressure Type	G= Gauge/Relative A=Absolute	<b>G</b>
Signal Output	T1=4-20mA(2wires)      T2=0-5V(3wires)      T3=1-5V(3wires) T4=0-10V(3wires)      T5=0.5-4.5V(3wires)      T6=I <sup>2</sup> C(4wires) T7=RS485(4 wires)      T8=4-20mA+HART T9=Dual 4-20mA(Pressure/Level + Temp.)      T0=Customized	<b>T1</b>
Power Supply	S1=8-24VDC      S2=12-30VDC      S3=5VDC S4=3.3VDC      S5=5-30VDC      S0=Customized	<b>S2</b>
Accuracy	A1=0.5%F.S. A2=0.25%F.S. A3=0.1%F.S.	<b>A1</b>
Housing Material	M1=316L(Typical) M0=Customized	<b>M1</b>
Others	N=Standard type TI=Titanium alloy wetted part AD=Additional weight	<b>N</b>
Cable Length	001= 1m cable    002= 2m cable    003= 3m cable    ...	<b>150</b>

\*Means to order: Level transmitter PWP414, range 0~150 meters water Gauge, 4-20mA, 12-30VDC, 0.5%FS accuracy, 316L housing material, standard type, cable length is 150 meters.

## You may also Need

Reference Picture	Description	Model and Product
	To connect with pressure transmitter and to have a site indicator of the measured value, have high&low value alarms, record and control.	PWD Series Display/indicator/controller
	Cast aluminum material with IP67 protection level for submersible pressure transmitter. Moisture-proof sealing design, insulation protection against electric shock. To be placed in dry environment or in a cabinet.	0010 Terminal box
	To lock transmitter's cable on the top of tank, stainless steel material.	0001 Cable Locking Part
	The additional weight increases the dead weight of the submersible level transmitter. It helps operation of lower down the sensor into narrow spaces like deep wells, tubes, boreholes. To reduce negative environmental influences on the measuring result. Material stainless steel 316L, dimension differs according to measuring range.	0002 Additional Weight

*\*\*Tell us medium / which application / measuring range / working temperature / signal output / what you wanna to realize, our sales engineer will recommend suitable model for you.*