DATASHEET

Pressure Level

Submersible Level Transmitter For Thread-mount Level Monitoring

Model PWP417

Applications

- Pipes and tanks
- Deep well and ground water monitoring
- Liquids measurement in tanks and vessels
- Industrial process control
- Calibration instrument
- Pressure switch and hydraulic system
- Irrigation equipment

Submersible Level Sensor PWP417

Features

- Reliable, precise measurement, long-term stability
- Insensitive to foam and viscosity
- Independent of liquid dielectric constant
- Easy to install
- Wide measuring range
- Robust and cost-effective
- IP68 water-proof

Description

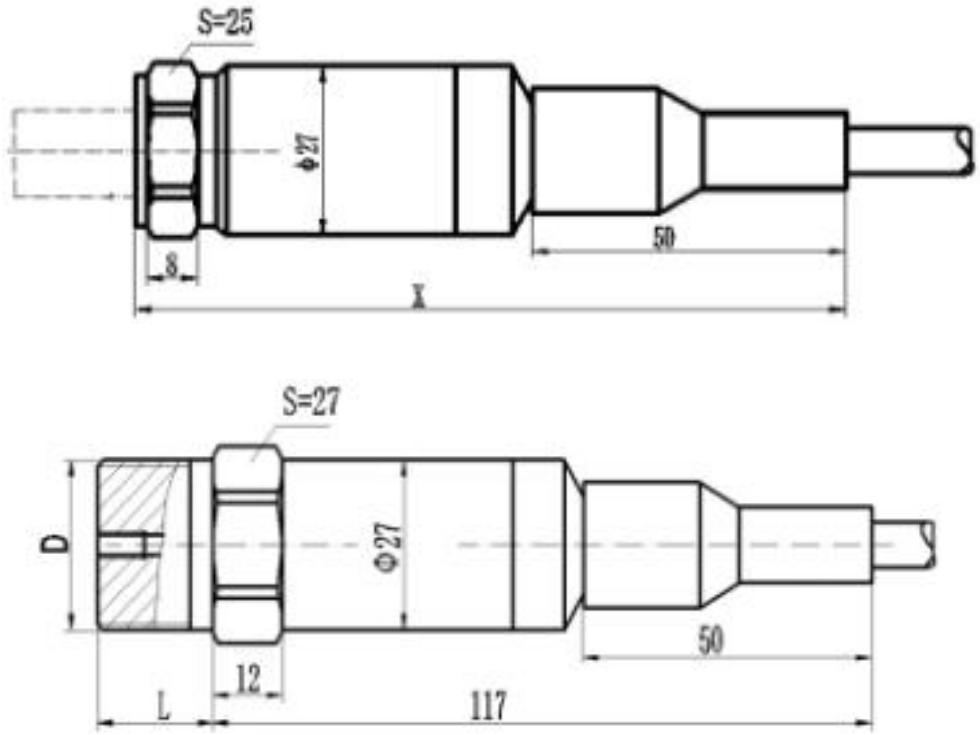
PWP417 is a submersible level transmitter suitable for liquid level monitoring. Can be mounted with thread and have IP68 water-proof, great for pressure and level measurement of tanks. It is with high quality Germany imported piezoresistive sensor core and 316L stainless steel housing, can be contacted with medias like food, water/wastewater, oil and can be used in wells, storage water/fuel tanks, water towers, dams, gauging stations.

It's robust construction for durable long-term services. Multiple wetted materials, optional installation methods, meet various applications. A probe with cable makes it easy installation, commissioning and operation. A ventilation tube in the cable automatically compensates for changes in atmospheric pressure above the tank, to assure the measurement accuracy. Model PWP417 integrates with lightning and surge protection, as well as reverse connection protection, to prevent damage of sensors.

Specifications

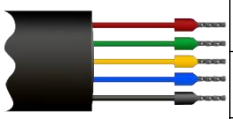
Model	PWP417		
Pressure Type	Relative (gauge) /Absolute pressure		
Pressure Range	0m~0.5m...300m H2O/0-0.05 bar...30bar Optional max 1000m H2O		
Safe Overload	≤150%FS		
Burst Pressure	500%FS		
Electrical Connection	Directly outlet cable		
IP Rating	IP68		
Accuracy	±0.5%FS(Typical), ±0.25%FS, ±0.1%FS(optional) @25℃		
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 --- I²C 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 I²C(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/℃)	≤0.01	≤0.03	≤0.05
Compensation Temp.	0℃~+50℃(typical), -10℃~+60℃(optional)		
Working Temp.	Media -30℃~+65℃, environmental -40℃~+70℃		
Storage Temp.	-40℃~+70℃		
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. X=117 when analogue signal, X=142 when RS485 signal.
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**	Plout	**GND**	GND	**GND**	**GND**
	Yellow	**/**	Tlout	**Vout**	PVout	**SCL**	**RS485A**
	Blue	**/**	/	**/**	TVout	**SDA**	**RS485B**
	Black	**PE**	PE	**PE**	PE	**PE**	**PE**

How to Order

Example Part Number: 417[6]HGT1S2A1M1N010

Model No.	PWP417	417
Measuring Range & Units	H=mH2O (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 H2O	[6]H
Pressure Type	G= Gauge/Relative A=Absolute	G
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^2C(4wires) T7=RS485(4 wires) T8=4-20mA+HART T9=Dual 4-20mA(Pressure/Level + Temp.) T0=Customized	T1
Power Supply	S1=8-24VDC S2=12-30VDC S3=5VDC S4=3.3VDC S5=5-30VDC S0=Customized	S2
Accuracy	A1=0.5%F.S. A2=0.25%F.S. A3=0.1%F.S.	A1
Housing Material	M1=316L(Typical) M0=Customized	M1
Others	N=Standard type TI=Titanium alloy wetted part AD=Additional weight	N
Cable Length	001= 1m cable 002= 2m cable 003= 3m cable ...	006

*Means to order: Level transmitter PWP417, range 0~6 meters water Gauge, 4-20mA, 12-30VDC, 0.5%FS accuracy, 316L housing material, standard type, cable length is 6 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.*