DATASHEET

Pressure Level

Submersible Level Transmitter For Fuel Level Measurement

Model PWP412-F

Applications

- Monitoring of diesel & gasoline fuel tanks
- Chemical and Petrochemical industry
- Level measurement in fuel trucks
- Fuel reservoir
- Liquids measurement in tanks and vessels
- Industrial process control
- Calibration instrument

Submersible Level Sensor PWP412-F

Features

- Reliable, precise measurement, long-term stability
- High accuracy of 0.25%FS, 0.1%FS
- Independent of liquid dielectric constant
- Easy to install and operate
- Wide measuring range to 300m
- PT100 temperature measurement optional
- IP68 water-proof

Description

PWP412-F is a submersible level transmitter suitable for fuel level monitoring. It is with high quality Germany imported piezoresistive sensor core and SUS304 stainless steel housing, cable material PU or PTFE optional, can be contacted with medias directly like diesel & gasoline, to be used in fuel storage tanks, fuel delivery trucks, fuel stations.

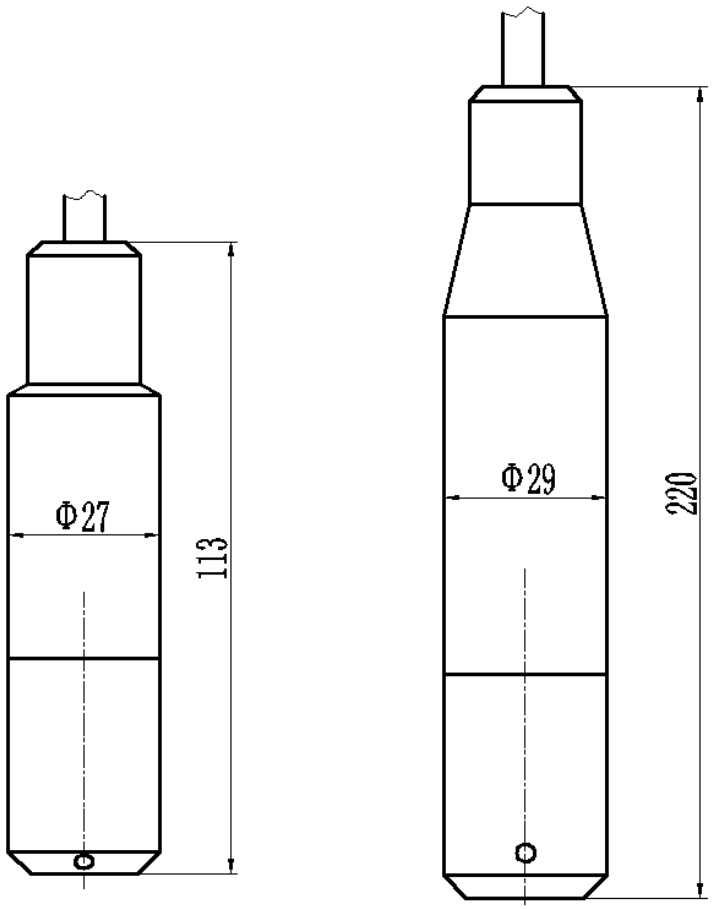
It's robust construction for durable long-term services. Compact size d=27mm can be fasten in/with a hollow tubes for both static tanks and mobile tanks. A probe with cable makes it easy installation, commissioning and operation. A ventilation tube in the cable automatically compensates for changes in atmospheric pressure above the tank, to assure the measurement accuracy. Model PWP412-F integrates with lightning and surge protection, as well as reverse connection protection, to prevent damage of sensors.

Welcome to check with us for this highly popular among industries and one of our best-selling sensors.

Specifications

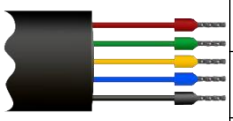
Model	PWP412-F		
Pressure Type	Relative (gauge) /Absolute pressure		
Pressure Range	0m~0.5m...30m Fuel/0-0.05 bar...3bar Optional max 1000m H2O		
Safe Overload	≤150%FS		
Burst Pressure	500%FS		
Electrical Connection	Directly outlet cable		
IP Rating	IP68		
Accuracy	±0.5%FS(Typical), ±0.25%FS, ±0.1%FS(optional) @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. 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: 412F[3]FGD3T1S2A1M1N003

Model No.	PWP412-F	412F
Measuring Range & Units	F=m Fuel (0m~0.5m … 30m) B=bar (0~0.05bar ...Max 3bar P=Psi (0~1psi...Max 43.5psi) I=inWC (0~20inWC...Max 1200inWC) Directly write range in [] and mention the code, for example: [3]F=3m Fuel	[3]F
Pressure Type	G= Gauge/Relative A=Absolute	G
Medium & Density of Fuel	D1=0.83g/cm3 density diesel D2=0.84g/cm3 density diesel D3=0.85g/cm3 density diesel D4=0.86g/cm3 density diesel G1=0.720g/cm3 density gasoline G2=0.725g/cm3 density gasoline G3=0.737g/cm3 density gasoline 0=Others by customized	D3
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=SUS304(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 ...	003

*Means to order: Level transmitter PWP412-F, range 0~3 meters Gauge, 0.85g/cm3 density diesel, 4-20mA, 12-30VDC, 0.5%FS accuracy, SUS304 housing material, standard type, cable length is 3 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, SUS304 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.*