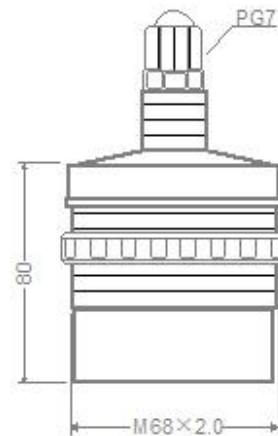


DATASHEET

Level

Ultrasonic Distance/Level Sensor

Model PWL-U500



Features

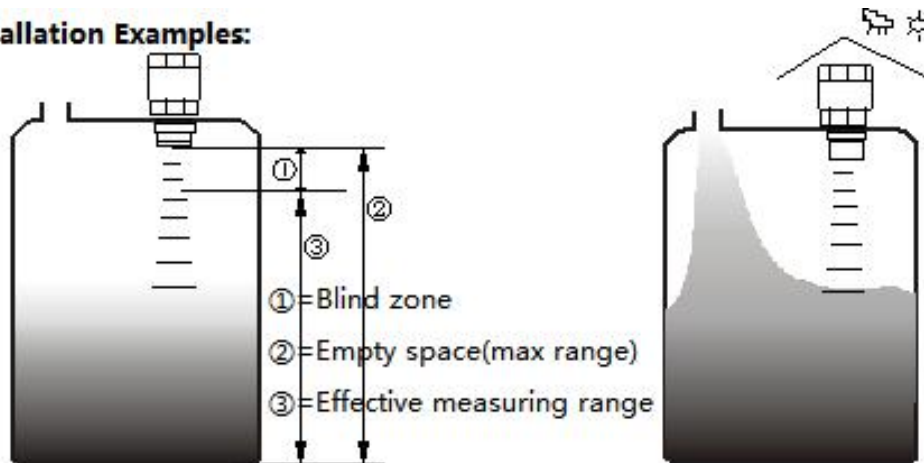
- Ultrasonic working principle, non-contact measurement method
- 0-50°C temperature compensation
- With anti-interference intelligent identification and error correction function
- 5m, 7m, 10m, 15m measuring ranges.
- Applicable to liquid level and distance measurement mode
- 0.5%F.S. accuracy, can customize 0.25%F.S.
- IP66 water-proof, IP68 optional
- Optional Intrinsically safe explosion-proof

Description

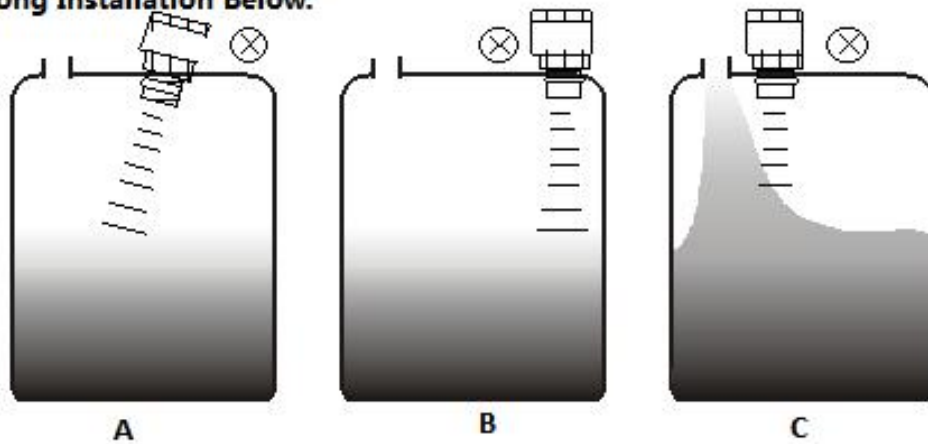
PWL-U500 Ultrasonic Level Transmitter is an integration of ultrasonic sensor, temperature sensor, ultrasonic servo circuit and transmitter circuit. All these features realize a concise and smart level transmitter. The circuit board is all gold-plated, and the internal electromagnetic shielding signal software digital filter (industrial grade) are tested under 48 hours high and low temperature aging. It promises higher and long term reliability. The housing is made of NLEPF synthetic material with strong texture and good acoustic properties. Its appearance is exquisite, waterproof and dustproof, and can adapt to most working conditions. Fixing the PWL-U500 ultrasonic transmitter on the liquid wall, moving arm or instrument shell does not require tools such as screws and screwdrivers. As long as there is a 68mm round hole, it can be installed very quickly and safely, and it is very convenient for maintenance and disassembly.

Installation

Installation Examples:



Wrong Installation Below:



Notes:

1. Measurement starts from the bottom line of the sensor.
2. The highest level of media cannot enter into blind area.
3. Level measurement should avoid the feeding port/inlet.
4. Better use sun/rain shade when installing outdoors.
5. Sensor's bottom should be horizontal with surface of medias, keep the sensor to be vertical with medias.
6. Sensor should be kept some distance to the wall because of beam angle of ultrasonic wave.
7. When measuring the object level, should avoid the feeding port to prevent the ultrasound echo being interfered.

Specifications

Model	PWL-U500		
Measuring Range	5m, 7m, 10m, 15m		
Blind Area & Beam Angle	Measuring Rang	Blind Area	Beam Angle
	≤5m	≤300mm	15°
	≤7m	≤500mm	12°
	≤10m	≤500mm	12°
	≤15m	≤800mm	9°
Accuracy	±0.5%FS; ±0.25%FS by customized		
Signal Output	4-20mA 3 wire with RS485 PC (Typical) 4-20mA(2-wire, 4-wire), 0-5V, 1-5V RS485 Modbus RTU		
Power Supply	DC24V/300mA (typical); DC12V/300mA optional		
Consumption	<1.5W		
Resolution	1mm		
Working Temperature Range	-10~50℃ (Can customize for -10~60℃, -20~70℃)		
Working Humidity	≤80%RH, no condensation		
Protection Level	IP66; IP68 by customization		
Electrical Connection	Water-proof connector, cable 1m		
Housing Material	NLEPF synthetic material		
Installation Method	Screw-in type: thread dimension M68x2.0mm Roller clamp type: hole opening size Φ70mm		
Working Condition	Atmospheric pressure, non-explosion, non-corrosive environment (Can customize intrinsically safe explosion-proof)		
Measurement Mode	Distance mode/measuring air distance (Default) Liquid level mode/measuring height of level (Default: Installation height=maximum range)		

Electrical Connection

Below is 3 wires 4-20mA signal +RS485 PC communication port wiring definition:

Operation Voltage	—	Red--V+
Signal Output	—	Yellow--4-20mA+
Signal Output	—	White--RS485 A
Signal Output	—	Green--RS485 B
Operation Voltage	—	Black--GND

How to Order

Example Part Number: U500R5A1T1S1T2P3003

Model No.	PWL-U500	U500
Measuring Range	R5=5m R7=7m R10=10m R15=15m	R5
Accuracy	A1=0.5%FS (typical) A2=0.25%FS	A1
Signal Output	T1=4-20mA(3wires) (typical) T2=4-20mA(2wires) T3=0-5V T4=1-5V T5=RS485 Modbus RTU T0= Others by customization	T1
Power Supply	S1=24VDC S2=12VDC	S1
Working Temperature	T1=-10~50℃ T2=-10~60℃ T3=-20~70℃	T2
Water Proof	P1=IP66 P2=IP67 P3=IP68	P3
Cable Length	001= 1m cable 002= 2m cable ...	003