DATASHEET

Level

Ultrasonic Level Sensor
Model PWL-U501

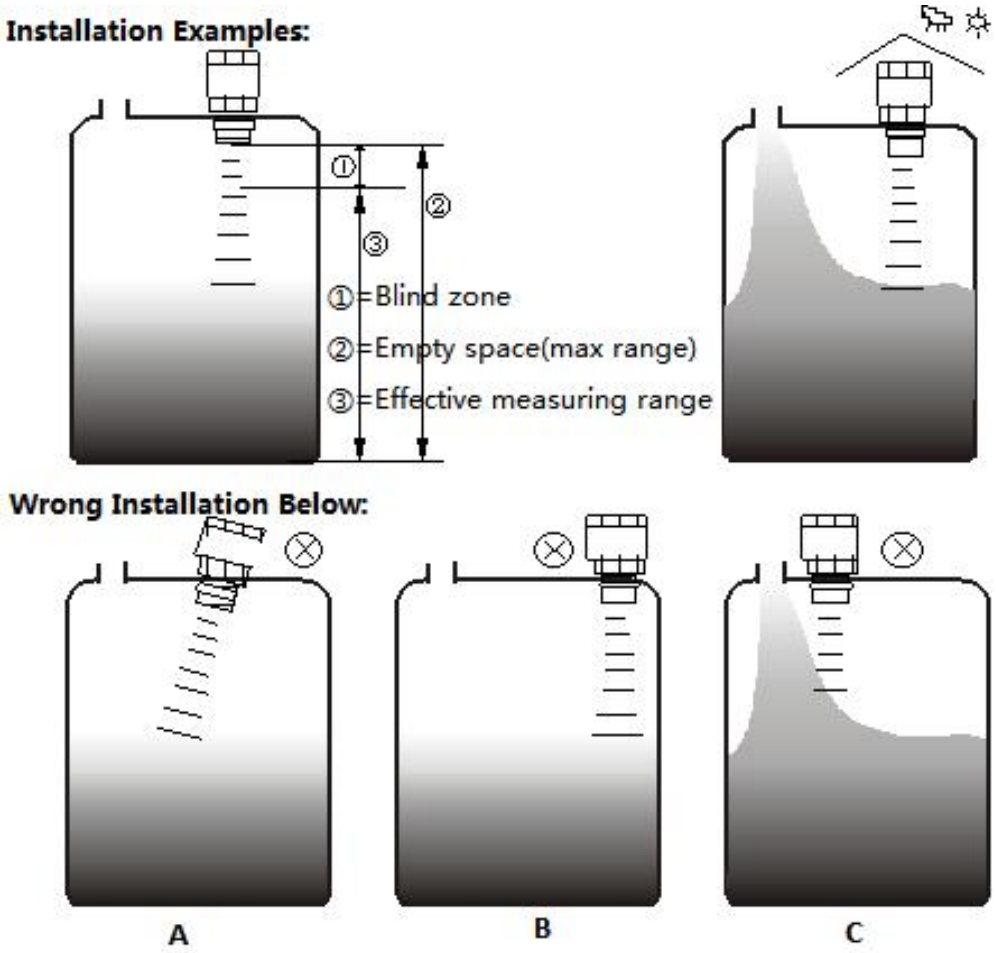
Features

- Wide temperature compensation
- Support distance measurement mode or level measurement mode
- One-touch factory reset function
- Intelligent recognition function for anti-interference
- Support calibration online for distance measurement accuracy in different environment
- Multi-level adjustment of ultrasonic emission intensity
- Multiple output signals: analog, digital and switch

Description

PWL-U501 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 tested under 48 hours high and low temperature aging. With "echo intelligent recognition" and "medium slope" digital filtering, which is suitable for acoustic and magnetic interference under different working conditions. 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-U501 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



Notes:

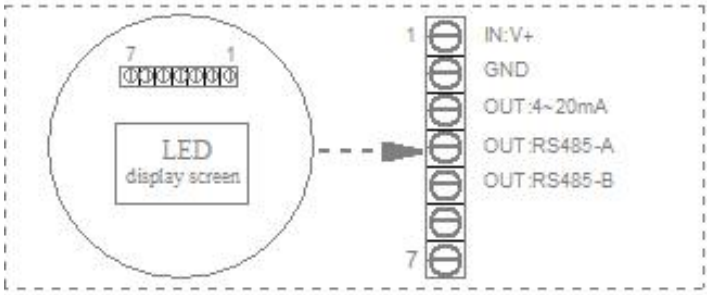
1. Measurement starts from the bottom line of the sensor.
2. The highest level of media cannot enter into blind area.
3. Level measurement should avoid the feeding port/inlet.
4. Better use sun/rain shade when installing outdoors.
5. Sensor's bottom should be horizontal with surface of medias, keep the 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-U501		
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 (Typical) 4-20mA(2-wire, 4-wire), 0-5V, 1-5V, 0-10V, 1-10V RS232, RS485 Modbus RTU NPN switch signal/Relay output: one-channel/ two-channels optional		
Power Supply	DC24V/300mA (typical); DC12V/300mA optional		
Display	4 bits LED display(LCD optional) (For 2 wire signal only available with LCD)		
Consumption	＜1.5W		
Resolution	Min. 1mm		
Working Temperature Range	-10~60℃ (Can customize for -20~70℃)		
Protection Level	IP66; IP68 by customization		
Explosion proof	Ex ia II AT3		
Electrical Connection	Quick-connect terminal (Without cable)		
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 wiring definition, other signals please check user manual



How to Order

Example Part Number: **PWL-U501R5A1T1+T5S1T2P1003**

Model No.	PWL-U501	PWL-U501
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=Switch output (1 or 2 switches) T6=Relay(upper&lower alarms) T7=RS485 Modbus RTU T0= Others by customization	T1+T5
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	P1
Cable Length	001= 1m cable 002= 2m cable ...	003