

DATASHEET

Level

Ultrasonic Distance/Level Sensor

Small Range 1m, 2m, 3m

Model PWL-U202



Features

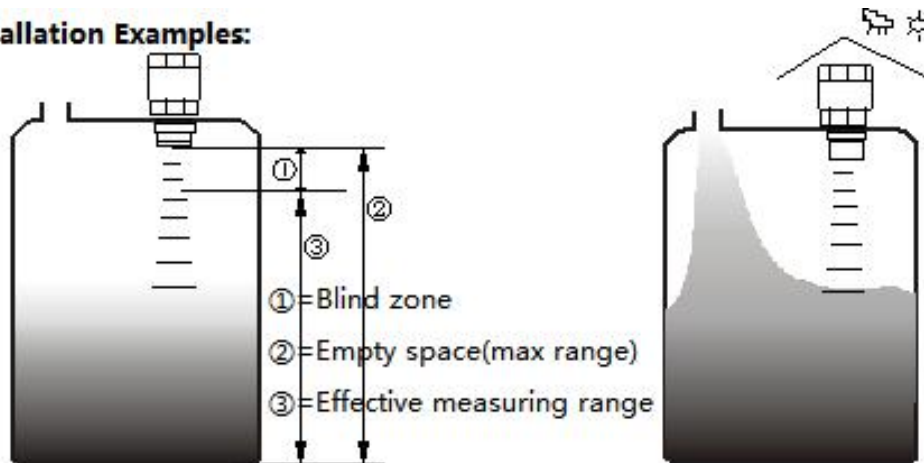
- Smaller than 0.06~0.15m blind zone
- With digital filtering and echo recognition functions
- Support custom sound speed (special material measurement)
- Internal built-in auto compensation for temperature
- High stability for measurement in harsh environment
- High accuracy $\pm 1\text{mm}$, $\pm 1.5\text{mm}$
- Can measure material level, liquid level, volume, weight, etc.

Description

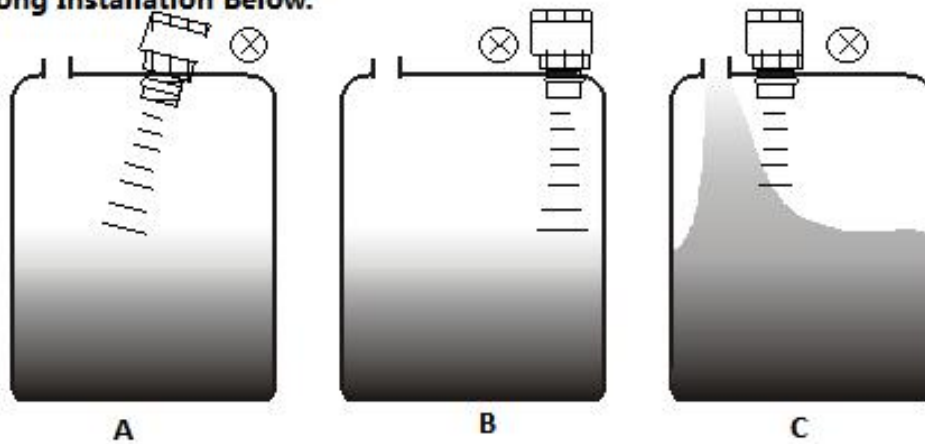
PWL-U202 Ultrasonic Level Sensor is the first designed in domestic for the measurement of small level range and small blind zone, is a high technology products and awarded many patents in China. It is an integration of ultrasonic sensor, temperature sensor, pressure sensor, ultrasonic servo circuit and transmitter circuit. All these features realize a concise and compact level transmitter. The excellent blind zone of 0.06 and 0.15m, as well as high precision of $\pm 1\text{mm}$ and $\pm 1.5\text{mm}$, suits itself as the best choice for small range tank level measurement instrument. It's robust SUS304 and cast aluminum together with built-in anti-condensation function can adapt to most working conditions. Compact installation method M30*1.5, can be installed in a $\Phi 61$ hole very quickly and safely, and it is very convenient for maintenance and disassembly.

Installation

Installation Examples:



Wrong Installation Below:



Notes:

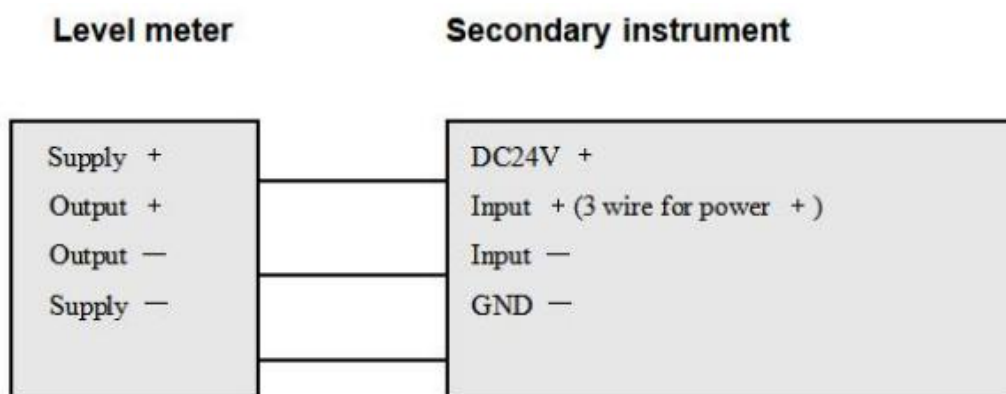
1. Measurement starts from the bottom line of the sensor.
2. The highest level of media cannot enter into blind area.
3. Level measurement should avoid the feeding port/inlet.
4. Better use sun/rain shade when installing outdoors.
5. Sensor's bottom should be horizontal with surface of medias, keep the 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

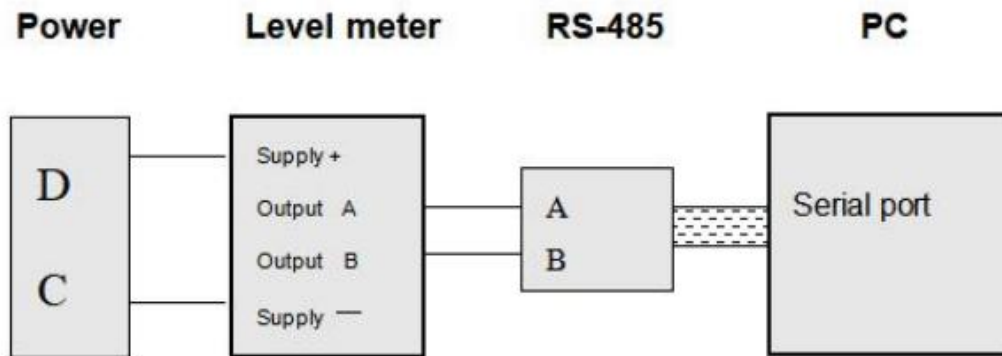
Model	PWL-U202
Measuring Range	1m, 2m, 3m
Blind Zone	<0.06~0.15m (according to range)
Emission Angle	<3~6° (according to sensor and environment)
Accuracy	±1mm, ±1.5mm (according to the range)
Resolution	1mm
Temperature Compensation	Automatic temperature compensation
Indicator	None
Signal Output	Analog: 4-20mA, 0-20mA, 0-5V, 0-10V Digital: RS485-Modbus RTU/TCP, HART Switch: 3 channels of NPN Wireless: NB-IoT, LoRa, 4G
Power Supply	12~28VDC, 18~32VDC(2 wires)
Installation Method	M30*1.5, Clamp
Electrical Interface	M20*1.5-2
Material of Housing	SUS304 stainless steel
Working Temperature Range	-20~65℃, -0.07~0.1MPa
Working Humidity	≤80%RH, no condensation
Protection Level	IP65(other can be customized)
Explosion Proof	Exiall CT4Ga, Ex db mb IICT6 Gb

Electrical Connection

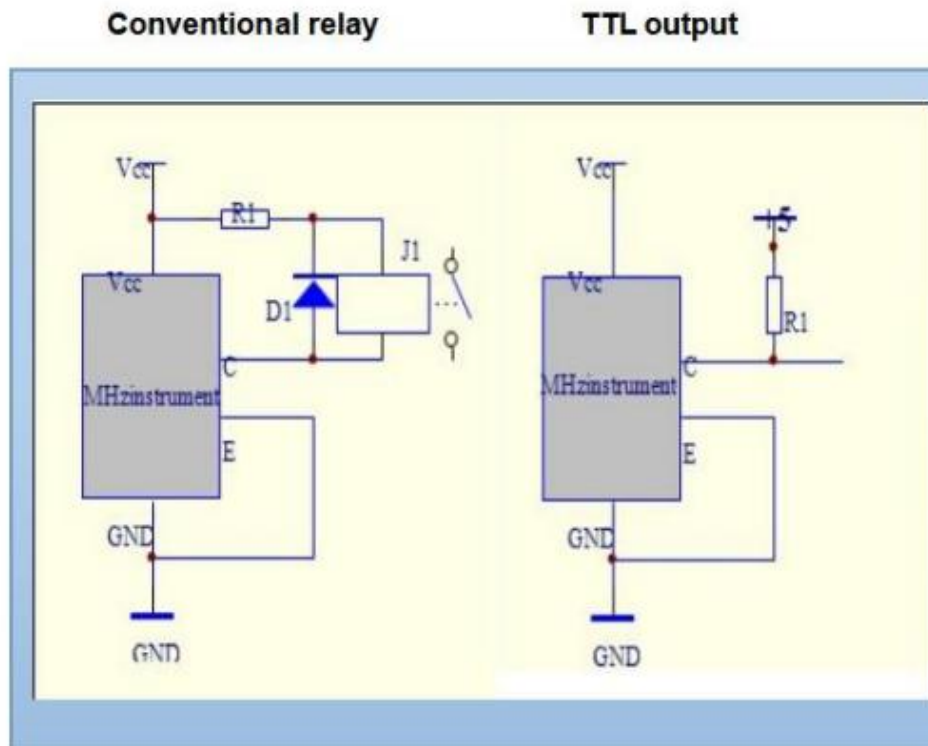
1. Wiring diagram of current(voltage) output connecting with secondary instrument



2. Serial output connecting with PC



3. NPN output wiring diagram



How to Order

Example Part Number: U202R1T1S1T2P1

Model No.	PWL-U202	U202
Measuring Range	R1=1m R2=2m R3=3m	R1
Signal Output	T1=4-20mA(3 wires) T2=4-20mA(2 wires) T3=0-20mA T4=0-5V T5=0-10V T6=RS485 Modbus RTU T7=RS485 Modbus TCP T8=Hart T9= 3 NPN T0= Others by customization	T1
Power Supply	S1=12~28VDC S2=18~32VDC	S1
Working Temperature	T1=0~50℃ T2=-10~60℃ T3=-20~65℃	T2
Water Proof	P1=IP65 P2=IP66 P3=IP67 P4=IP68	P1