



WLRC-S43U



Wireless Bottom-installed Ultrasonic Liquid Level Sensor

WLRC-S43U is a new innovative Ultrasonic liquid level meter, which is mounted at the bottom of the tank without any need for alteration or drilling holes for installation. This is an ideal sensor for measuring pure liquids, such as clean water, oil, diesel, gasoline, and liquefied gas, etc. in small, medium, and large capacity tanks. Long-range wireless communication makes this device easy to install outdoors and make operational at record time.

Features & Benefits:

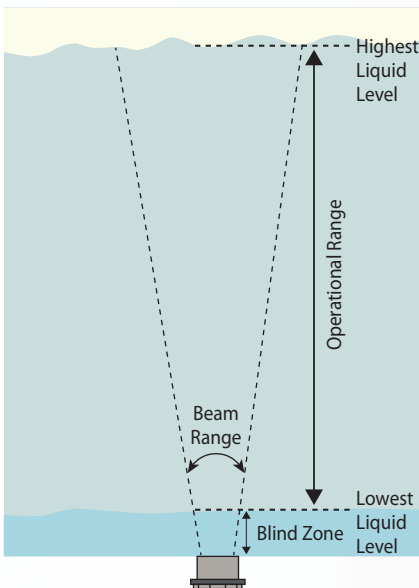
- Bottom mounted, easy to install and configure
- Safety, no broken and drilling on the container
- Magnetically fitted bracket for connecting to metal tanks
- Narrow beam angle and short blind zone optimized for both large and small tanks



Applications:

- Tank levels
- Diesel fuel gauging
- Liquid assets inventory
- High or low level alarms
- Process batch monitoring
- Remote monitoring
- Input to telemetry systems
- Irrigation control

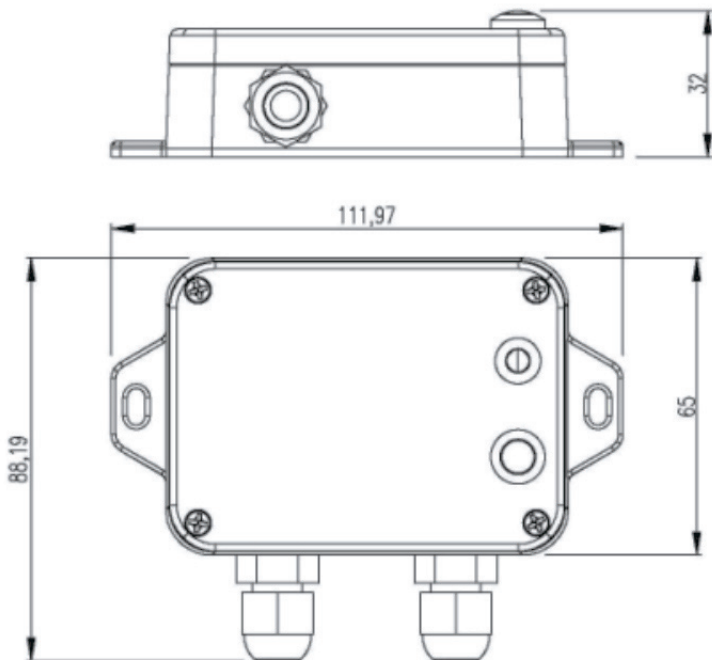
Schematic Diagram:



Technical Specifications

Electrical	
Power Supply	DC 12V
Working Current	<50mA (external sensor)
<i>*The actual electrical characteristics will vary depending on the power supply voltage.</i>	
Ultrasonic Liquid Level Sensor Specifications	
Power Supply	9- 36V Power Supply
Operating Current	Less than 50mA
Measuring Range	0.12-3m (0-0.12m is a blind zone)
Beam Angle	8°
Measurement Accuracy	1%
Temperature Accuracy	±2-3°C (±35.6-37.4°F), -40~125°C (-40~257°F)(NTC thermistor)
Housing Material	PVDF/ABS
Dimension	Diameter 39 x 32mm / 1.53" x 1.26"
Weight	40g / 0.09lb
Installation method	Bottom mounting (AB glue)
Frequency	
Frequency Range	863MHz-928MHz 470MHz-510MHz
TX Power	US915: 20dbm, CN470: 19.15dbm
Rx Sensitivity	-136dBm (LoRa, Spreading Factor=12, Bit Rate=293bps) -121dBm (FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	Built-in antenna
Communication Range	Up to 500m/0.310miles, the actual transmission distance depends on the environment*
Data Transfer Rate	0.3kbps~50kbps
Modulation	LoRa/FSK (Note: choose one of them)
Supportable LoRaWAN band	EU863-870, US902-928, Configured before shipment
Physical	
Size LxWxH	112mm x 88.19mm x 32mm / 4.41" x 3.47" x 1.26"
Weight	About 200g / 0.44lb
Environment Temperature Range	-20°C ~ 55°C / -4°F ~ 131°F
Environment Humidity Range	<90%RH (No condensation)
Storage Temperature	-40°C ~ 85°C / -40°F ~ 185°F

Dimensions



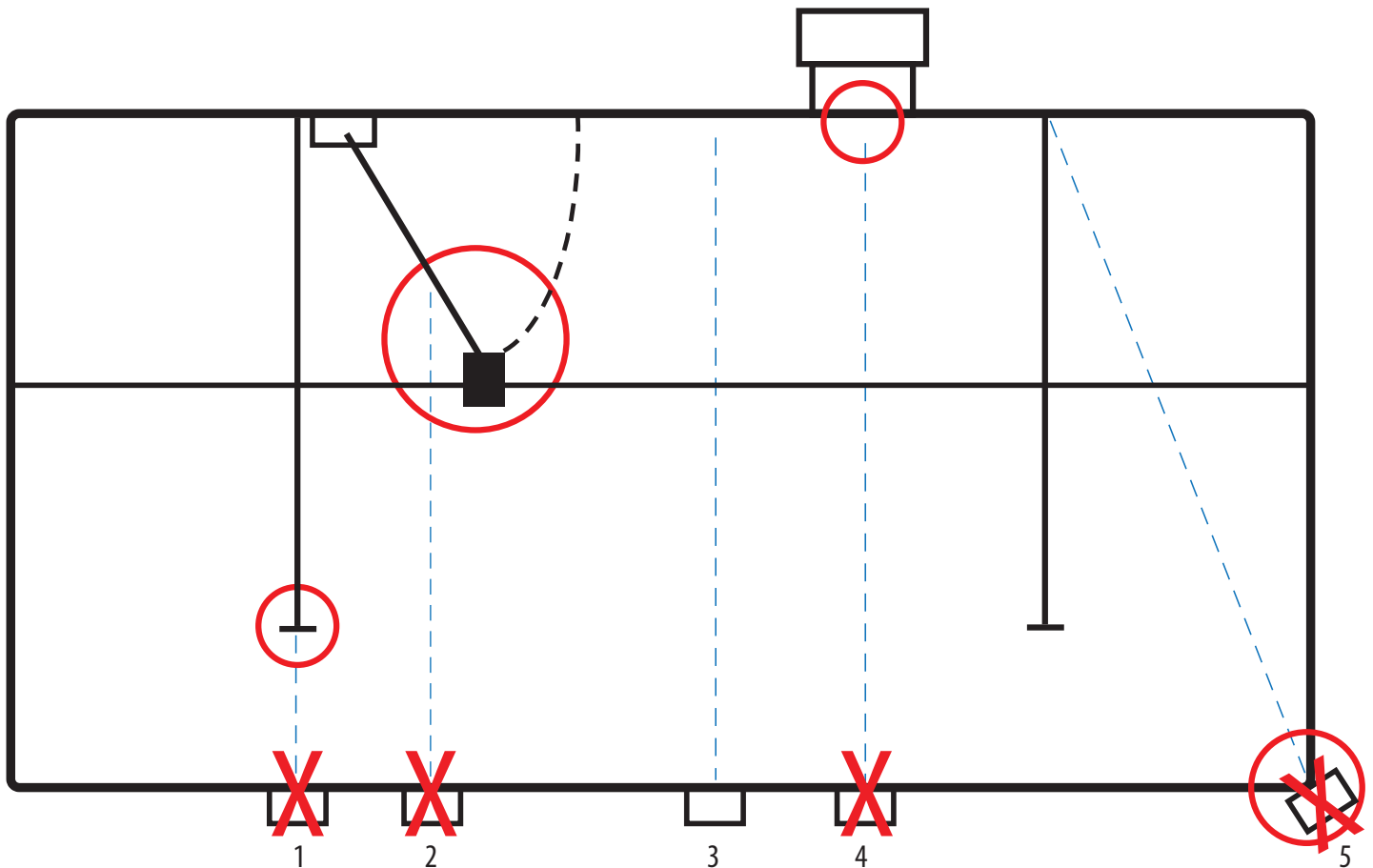
* The data obtained by the ultrasonic level sensor is:
the actual liquid height + the thickness of the bottom of the container, and the obtained data is within the measurement range of **0.12-3m**.

* When the thickness of the bottom of the steel container is more than **8mm/0.31"**, the ultrasonic liquid level sensor can not measure the farthest distance;
The thickness of the bottom of the glass or plastic container can reach **10mm/0.39"**, which can be measured normally.

* Must pay attention to:

1. There must be a flat surface to properly install the ultrasonic level sensor at the bottom of the container.
2. Ensure that the working surface of the sensor is in a horizontal position, and the working surface is parallel to the liquid level in the tank; the radiation axis of the sensor is perpendicular to the horizontal direction.

As the picture shows:



The 1, 2, and 4 points in the above figure are not suitable for mounting sensors because they are too close to the tank wall or have obstacles. Point 5 is not suitable because it is not horizontal. Position 3 is suitable for mounting the sensor.

Note:

Because the ultrasonic level sensor has high ultrasonic energy; **when the measured liquid is water, the water level must be higher than 50cm/19.68"**, and the measured data can reach 1% accuracy.

** Actual signal range may vary depending on the environment.*

** Battery life is determined by sensor reporting frequency and other variables.*

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