



WLRC-S43T



Wireless Top Mount Ultrasonic Liquid Level Sensor

This wireless communication device uses ultrasonic to measure distance. The ultrasonic propagation medium of WLRC-S43T ultrasonic sensor is air, so the measured object can be any liquid or solid with a certain flat. The device can be used for liquid level detection, material level detection, etc. The host body and the ultrasonic sensor communicate through the UART serial port and transmit the detected data to other devices through the wireless network for display. It adopts a wireless communication method that conforms to the LoRa™ protocol standard.

Features:

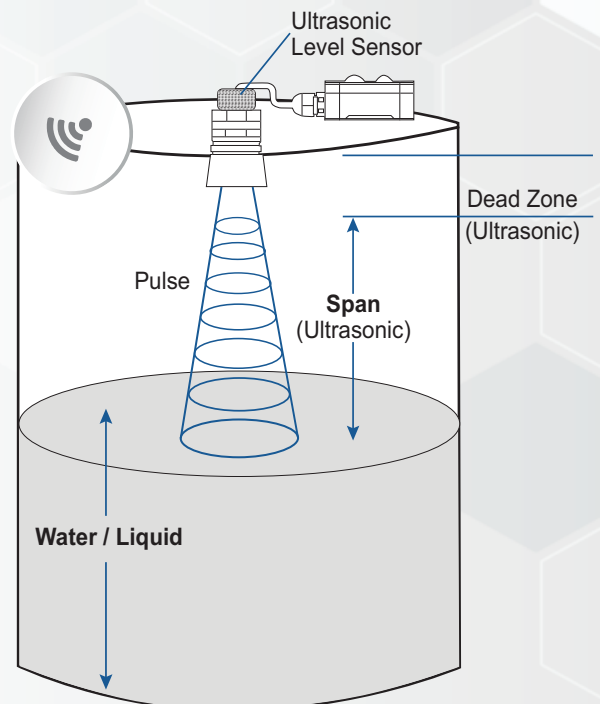
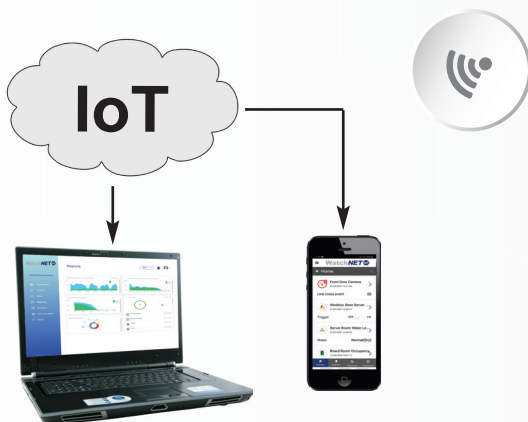
- Super Long Range Signal Penetration
- 5 years plus Battery Life*
- Easy Installation
- Frequency Hopping Spread Spectrum (FHSS)
- Improved interference immunity
- Encrypt-RF™ Security (Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)
- Over-the-air updates
- Interactive WatchNET IoT platform with dashboard, search and notification settings
- * Magnetized ABS enclosure for easy installation



Applications:

- Water level of water tank monitoring
- Water level of water well monitoring
- Horizontal distance detecting
- The level of material detecting

Schematic Diagram:



Technical Specifications

Electrical

Input Power	2x 3.6V ER14505 AA lithium batteries (3.6V2400mah/section in parallel)*
Operating Voltage	3.1V ~ 3.65V
Battery Life	3 years (Conditions: ambient temperature 25°C/77°F, 15min heart beats, tx power = 20dBm, LoRa spreading factor SF = 10)
Standby Current	20uA
Wake up Current	Wakeup current range 0.8mA-20 mA
Low Voltage Threshold	3.2V
Battery Measurement Accuracy	±0.1V

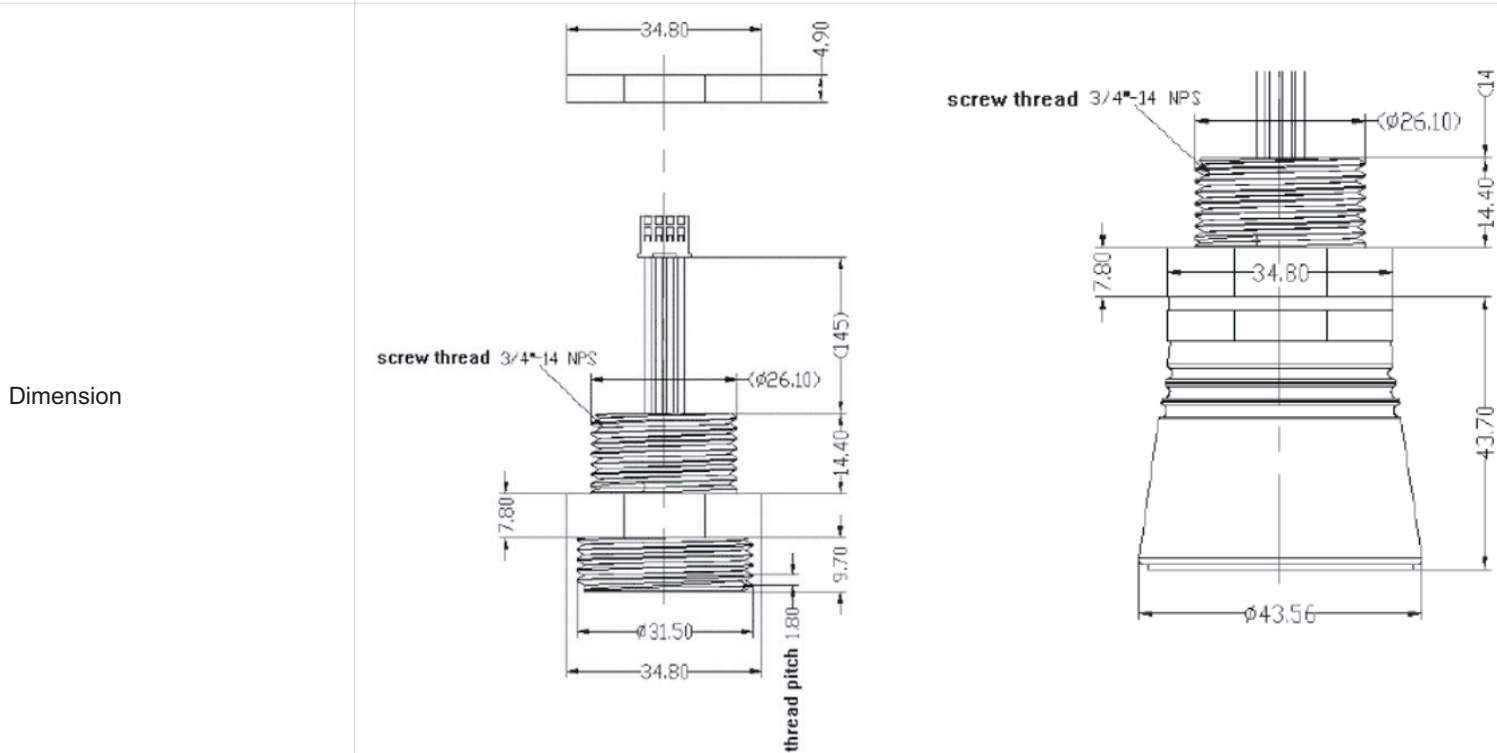
Module-R100H

Wake-up Current	0.8mA - 8mA@3.3V
Transmitting current (max)	120mA@3.3V
Receiving current (max)	11mA @3.3V

*Specific electrical characteristics may vary depending on the power supply voltage.

Ultrasonic Ranging Sensor

Power Supply	DC 3.3V~5V
Operating Current	Less than 15mA
Blind Distance	0-0.25m / 0-9.84"
Detection Angle	About 15°
Measurement Accuracy	±(1+S*0.3%) cm, S is the detected distance between the device and the detected liquid/solid (The measured object is a flat surface or a static horizontal surface)



Operating Temperature	-15°C ~ 55°C / -5°F ~ 131°F
Operating Humidity	<80% RH
Installation	Top mounted

Frequency

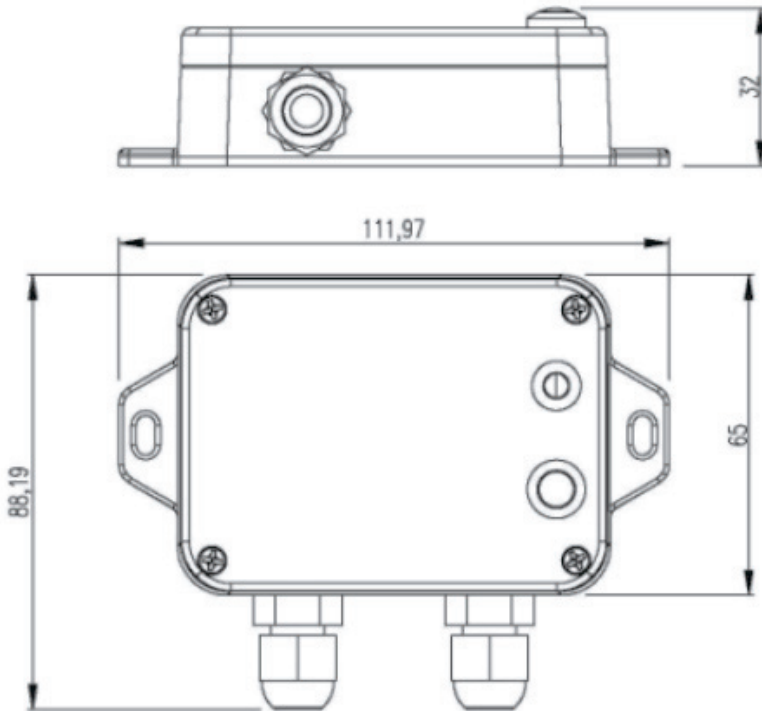
TX Power	19dBm±1dBm
Rx Sensitivity	-136dBm (LoRa, Spreading Factor=12, Bit Rate=293bps) -121dBm (FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	Built-in antenna
Communication Range	Up to 500m/0.310miles, the actual transmission distance depends on the environment*
Data Transfer Rate	0.3kbps ~ 50kbps
Spread Technique	LoRa/FSK
Available Frequency	EU863-870, US902-928, Configured before shipment

Physical

Dimension	L:112mm x W:88.19mm x H:32mm / L:4.41" x W:3.47" x H:1.26"
Weight	0.24kg / 0.53lb Including batteries)
Protection class	Main Part IP65/67 / Ultrasonic probe protection level IP60
Environment Temperature Range	-15°C ~ 55°C / -5°F ~ 131°F
Environment Humidity Range	<90%RH (No condensation)
Storage Temperature	-25°C ~ 70°C / 77°F ~ 158°F

* Actual signal range may vary depending on the environment.

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



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