

LoRaWAN Ultrasonic Liquid Level Sensor



Smart Agriculture, Smart Building, Smart City, Smart Facility, Smart Farm, Smart Factory, Smart Transportation, Smart Utilities

SKU: WSLRW-ULC

LoRaWAN ULTRASONIC LEVEL SENSOR WSLRW-ULC

LoRaWAN



WSLRW-ULC-H1.PNG

- ✓ **LoRaWAN communication**
LoRaWAN communication standard to allow sensor connect to any LoRaWAN Gateway on the market.
- ✓ **10-Year battery**
Ultra-low power sensing technology from Daviteq with Ultra-low power wireless technology allow the sensor can last up to 10 years with 02 x AA type batteries.
- ✓ **High Accuracy & Stable**
Advanced ultrasonic sensor with digital signal processing to deliver high accuracy and stable measurement of level or distance for liquid surface
- ✓ **IP68 Outdoor**
IP68 design for both Indoor and Outdoor applications



WSLRW-ULC is LoRaWAN Ultrasonic Level Sensor to measure the level of liquid surface of water, oil... This level sensor utilises the ultrasonic technology to measure the surface of liquid, the principle is to measure the time of flight of the ultrasound pulse in the air environment. The ultrasound pulse will be ejected from ultrasonic transducer, go thru the air and reaching the surface of liquid, then reflected back to the ultrasonic transducer, the measuring circuit will measure the time of flight of the Pulse then calculate the distance from transducer to the surface. With Ultra-low Power design and smart firmware allow the sensor can last up to 10 years with 02 x AA-type batteries (depends on configuration). The sensor will transmit data in kilo-meters distance to LoRaWAN gateway, any brand on the market.

Applications

Flood Monitoring, Level Monitoring, Process Monitoring, Safety Monitoring, Smart Irrigation, Infrastructure Monitoring

Notes For Applications

- Non-Contact Measurement: Reduce wear and maintenance
- Wide Range of Applications: Suitable for fluids, pastes, sludge, and bulk materials in harsh environment.
- Density and Humidity Insensitivity: Don't affect by humidity and density
- Versatility: Used in oil and gas, chemical processing, water treatment, and food industries.
- Height Limitations: Best for small and medium liquid tanks
- Medium conditions: Consider foaming liquids, turbulence, and viscosity

DETECT WATER LEVEL ON THE CULVERT, RIVER,...



WSLRW-ULC-H2.PNG

DAVITEQ TECHNOLOGIES INC

Ho Chi Minh City, VN | Koblenz, DE | Melbourne, AU | Zurich, CH

+84.28.6268.2523 / 6268.2524

info@daviteq.com

www.iot.daviteq.com

Created date: Dec-21-2022

Updated date: Aug-28-2024

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Specification

Sensor	Ultrasonic sensor
Measurement range	250~5500mm (Non-flat surface will give shorter range in actual condition)
Resolution	±5.0mm
Accuracy	±10mm + S*0.3% (with S is the measured value)
Sensor sampling rate	configurable from 10s up to 3600s
Alarm setting	setting the alarm threshold for calculated value
COMMUNICATION	
SF factors	SF7~SF12
Antenna	Internal Antenna 2.0dbi
Battery	02 x AA size 1.5VDC, battery not included
RF Frequency and Power	860~930MHz, 14~20dBm, configurable for zones: EU868, IN865, RU864, KR920, AS923, AU915, US915
Protocol	LoRaWAN® Class A
Data sending modes	Interval time and when alarm occurred
Configuration	via downlink or offline cable (software is free)
RF Module complies to	ETSI EN 300 220, EN 303 204 (Europe) FCC CFR47 Part15 (US), ARIB STD-T108 (Japan)
Working temperature	-15~60°C (with AA L91 Energizer®)
Dimensions	H180xW50xD40
Net-weight	250g
Housing	Polycarbonate & POM plastic, IP68

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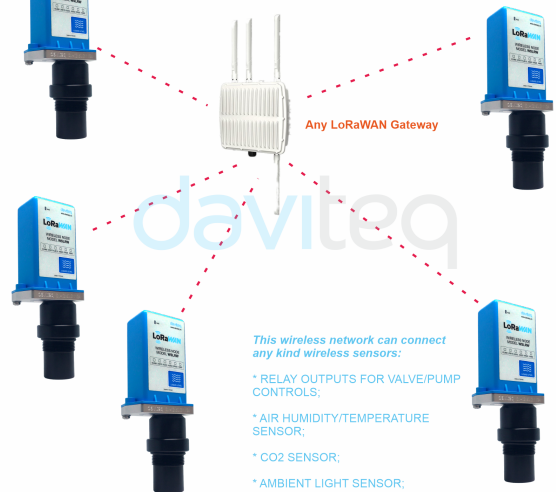
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LEVEL SENSOR INSTALLED IN WATER TANK



WSLRW-ULC-H3.PNG

LoRaWAN NETWORK



WSLRW-ULC-H4.PNG

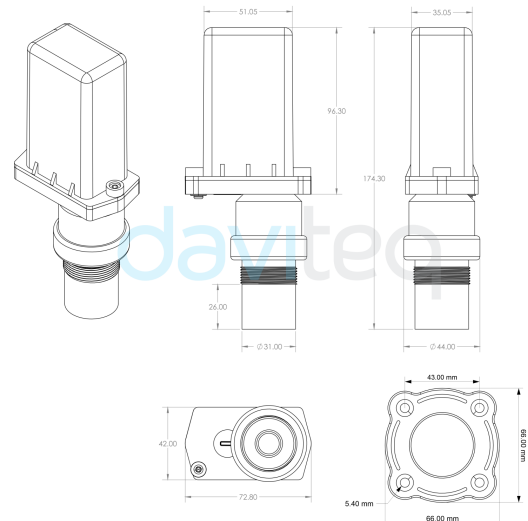
- This wireless network can connect any kind wireless sensors:*
- * RELAY OUTPUTS FOR VALVE/PUMP CONTROLS;
 - * AIR HUMIDITY/TEMPERATURE SENSOR;
 - * CO2 SENSOR;
 - * AMBIENT LIGHT SENSOR;
 - * ...ETC

PACKAGE INCLUDES



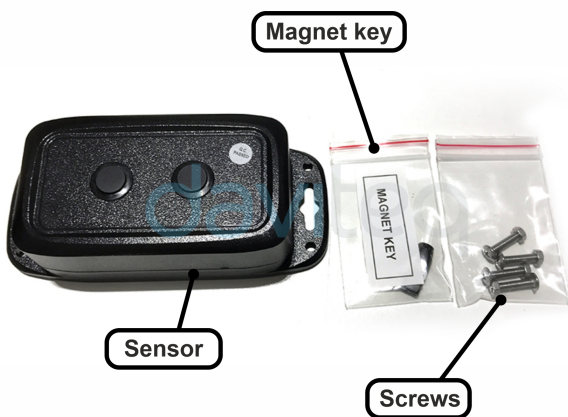
WSLRW-ULC-H5.PNG

DIMENSION DRAWING OF WIRELESS SENSOR



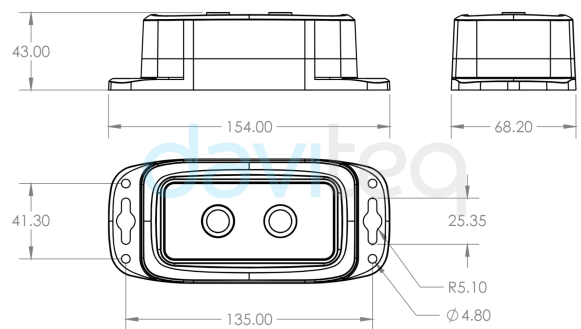
WSLRW-ULC-H6.PNG

WHAT'S IN THE PACKAGE?



WSSFC-ULA-H7.PNG

DIMENSION DRAWING OF WSLRW-ULA (Unit: mm)



WSLRW-ULA-H7.PNG

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RECOMMENDED BATTERIES

E91 AA Alkaline battery



L91 AA Lithium battery



-18 .. + 60 oC working temperature

10-year shelf life

3000 mAH Capacity

Price: 1X

-40 .. + 60 oC working temperature

20-year shelf life

3500 mAH Capacity

Price: 3.5X

WSLRW-ULA-H8.PNG

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Ordering Information

ITEM CODE	DESCRIPTIONS
WSLRW-ULC-01	LoRaWan Ultrasonic Level Sensor for General Level/Distance Measurement, 25-600cms, internal antenna, Type AA battery 1.5VDC, IP67, 860-930MHz for all regions

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