Wireless Water Sensor
R311W Data Sheet

Wireless Sensor Network Based on LoRa Technology

LoRa Alliance Certified™
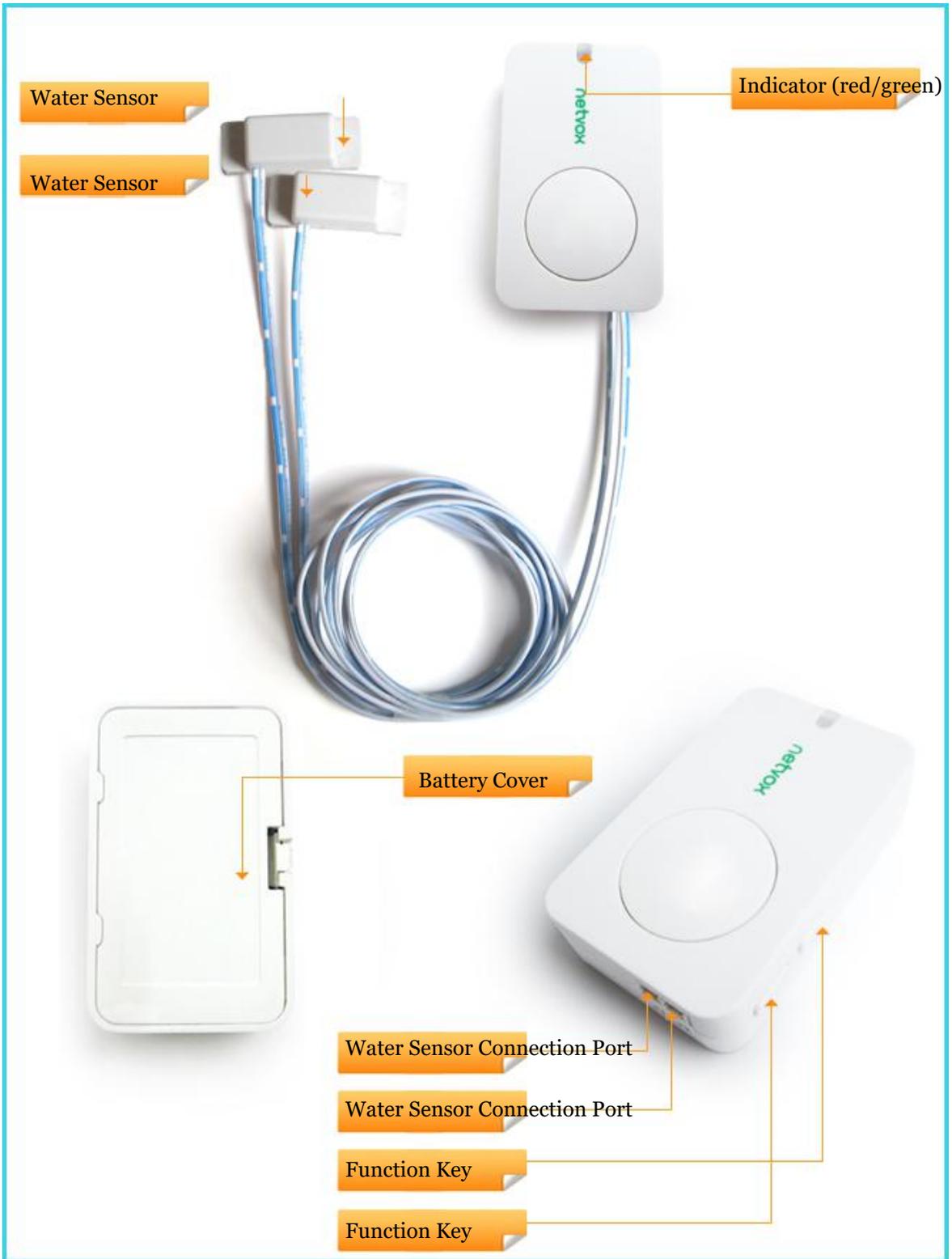

R311W

Wireless Water Sensor

Water Sensor

Water Sensor

Indicator (red/green)

Battery Cover

Water Sensor Connection Port

Water Sensor Connection Port

Function Key

Function Key

R311W Appearance

Wireless Water Sensor

General Description

NETVOX Wireless Water Sensor R311W is a LoRaWAN device compatible with LoRaWAN protocol (ClassA). When the R311W sensor detects the leak, it will send an alarm message to the gateway. When the sensor detects no leaks, it will send a message that shows no leak to the gateway.

Principle of Operation

NETVOX Wireless Water Sensor is available to detect water leak at data center, engine room, boat blige...etc. The radio transmission is based on the new disruptive LoRa long range technology. R311W will transmit information and data to the server from application fields based on the desired behavior. The low battery consumption device is long lasting which ensures optimum usage.

Thanks to small sizes, they can be installed everywhere. They are wireless so they take up minimal floor space.The transmission is direct to a central center that can be programmed to trigger an alarm system.Thanks to innovation, these wireless sensors are more reliable and precise and they can detect several applications.
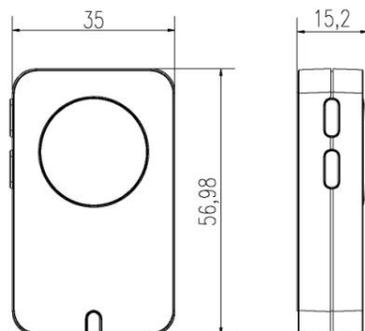
Example Applications

• Data center and server room water monitoring
• Document retention center monitoring
• Basement water monitoring
• Plumbing leak detection
• Boat bilge monitoring
• Storage monitoring
• And many more...

Features of NETVOX Sensors

• LoRaWAN™ Class A compatible
• Frequency Hopping Spread Spectrum (FHSS)
• Improved interference immunity
• Improved power management for longer battery life
• Encrypt-RF™ Security (Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)
• Battery Life[*2]:
    ⁻ Please refer to web: http://www.netvox.com.tw/electric/electric_calc.html
    ⁻ At this website, users can find battery life time for varier models at different configurations.
• Over-the-air updates (future)
• Third-Party online wireless sensor monitoring and notification system to configure sensors, view data and set alerts via SMS text and email (optional)
• Available third-party platform: Actility/ThingPark, TTN, MyDevices/Cayenne
*1. Actual range may vary depending on environment.
*2. Battery life is determined by sensor reporting frequency and other variables

Wireless Water Sensor

Technical Specifications

Main Body

Electric

Input Power	2pcs 3.0V CR2450 button battery (Single CR2450 battery capacity 620mah)
Operation Voltage	DC +2.4V～3.0V
Standby Current	12uA/3.0V
Transmitting Current (max)	120mA/3.0V
Receiving Current (max)	11mA @3.0V
Low Voltage Threshold	2.4V
Battery Voltage Measurement	±0.1V

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	Build-in antenna
Communication Range	Up to 10 km, the actual transmission distance depends on the environment)
Data Transfer Rate	0.3kbps～50kbps
Spread Technique	LoRa/FSK
Available Frequency	EU863-870，US902-928，AU915-928， KR920-923，AS923，CN470-510 Configured before shipment

Wireless Water Sensor

Physical

Main Body Dimension	57mm x 35mm x 15.2mm
Sensor Dimension	43mm x 13mm x 12mm
Weight	48.9g
Operating Temperature	-20°C ～ 55°C
Environment Humidity Range	<90% RH (No condensation)
Storage Temperature	-40°C ～ 85°C

Water Wire

Water Leakage Material	UL2468 28AWG
Water Wire Maximum Temperature	80°C
Water Wire Weight	5g
Water Wire Core resistance	1.3 Ohm / meter
Water Wire Diameter	1mm
Water Wire Length	1000mm (±5mm)
Water Wire Flame Rating	VW-1
Water Wire Length Limit	300m(Theoretical value)

Contact:

NETVOX TECHNOLOGY CO., LTD.

TEL: 886-6-2617641
FAX: 886-6-2656120
E-mail: sales@netvox.com.tw
WEB: www.netvox.com.tw

NETVOX TECHNOLOGY CO., LTD (XIAMEN)
TEL: 86-592-5717188
FAX: 86-592-5717180
E-mail: dyx@netvox.com.cn
WEB: www.netvox.com.cn