

Wireless 2-Gang Water Leak Detector

Wireless Sensor Network Based on LoRa Technology



R311W Data Sheet

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Description

Wireless 2-Gang Water Leak Detector (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.

This device has been certified by the LoRa Alliance and is allowed to use the following logo on the product:



Features

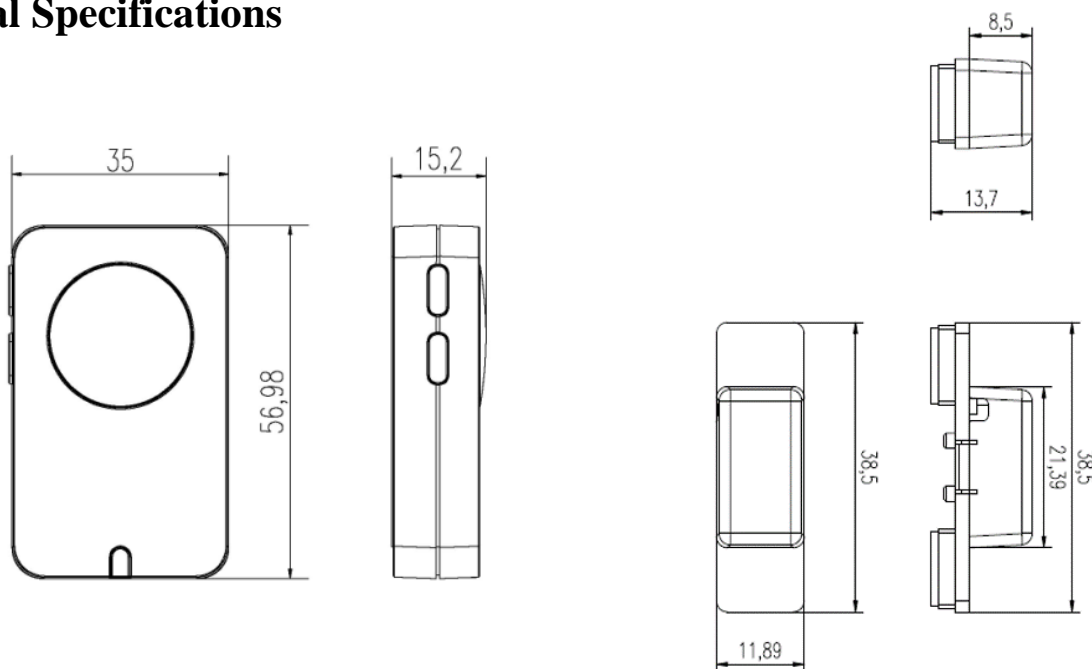
- LoRaWAN™ Class A compatible
- 2*3.0V CR2450 button battery power supply
- Water leak detection
- Apply SX1276 wireless communication module
- Frequency Hopping Spread Spectrum (FHSS)
- Configuration parameters can be configured through a third-party software platform
- Applicable to third-party platforms: Actility / ThingPark, TTN, MyDevices / Cayenne
- Low power consumption and long battery life Improved
- Battery Life:
 - 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.

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...

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Technical Specifications



Electric

Input Power	2pcs 3.0V CR2450 button battery
Operation Voltage	2.4V to 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

Water Leak Wire

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

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Frequency

TX Power	US915 20dbm ; AS923 16dbm ; AU915 20dbm ; CN470 19.15dbm ; EU868 16dbm ; KR920 14dbm ; IN865 20dbm ;
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 (LoRa) 1.2kbps ~ 300kbps (FSK)
Modulation	LoRa/FSK
Available Frequency	EU863-870,US902-928,AU915-928,KR920-923, AS923-1,AS923-2,AS923-3,IN865-867,CN470-510 (Note: optional, to be done in the factory configuration)

Physical

Main Body Dimension	57mm x 35mm x 15.2mm
Sensor Dimension	11.89mm x 38.5mm x 13.7mm
Weight	48.9g
Operating Temperature	-20°C ~ 55°C
Environment Humidity Range	< 90% RH (No condensation)
Storage Temperature	-40°C ~ 85°C