Wireless Water Leak Detector with Rope Sensor

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Wireless Sensor Network Based on LoRa Technology

R718WB Data Sheet

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General Description

R718WB is a non-locating leak detection wireless communication device. R718WB can detect the leak status through an external dual-core non-positioning water rope sensor, and send the detected data to data center through the wireless network. It uses the SX1276 wireless communication module.

Main Features

• Apply SX1276 wireless communication module

• 2 section ER14505 batteries AA SIZE (3.6V/section) parallel power supply

• Non-locating leak detection

• Base with magnet attached to iron objects

• LoRaWAN™ Class A compatible

• Frequency Hopping Spread Spectrum (FHSS)

• Improved interference immunity

• Improved power management for longer battery life and set alerts via SMS text and email (optional)

• Available third-party platform: Actility/ThingPark, TTN, MyDevices/Cayenne

• The base is attached with a magnet that can be attached to a ferromagnetic material object

• Third-Party online wireless sensor monitoring and notification system to configure sensors, view data

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.
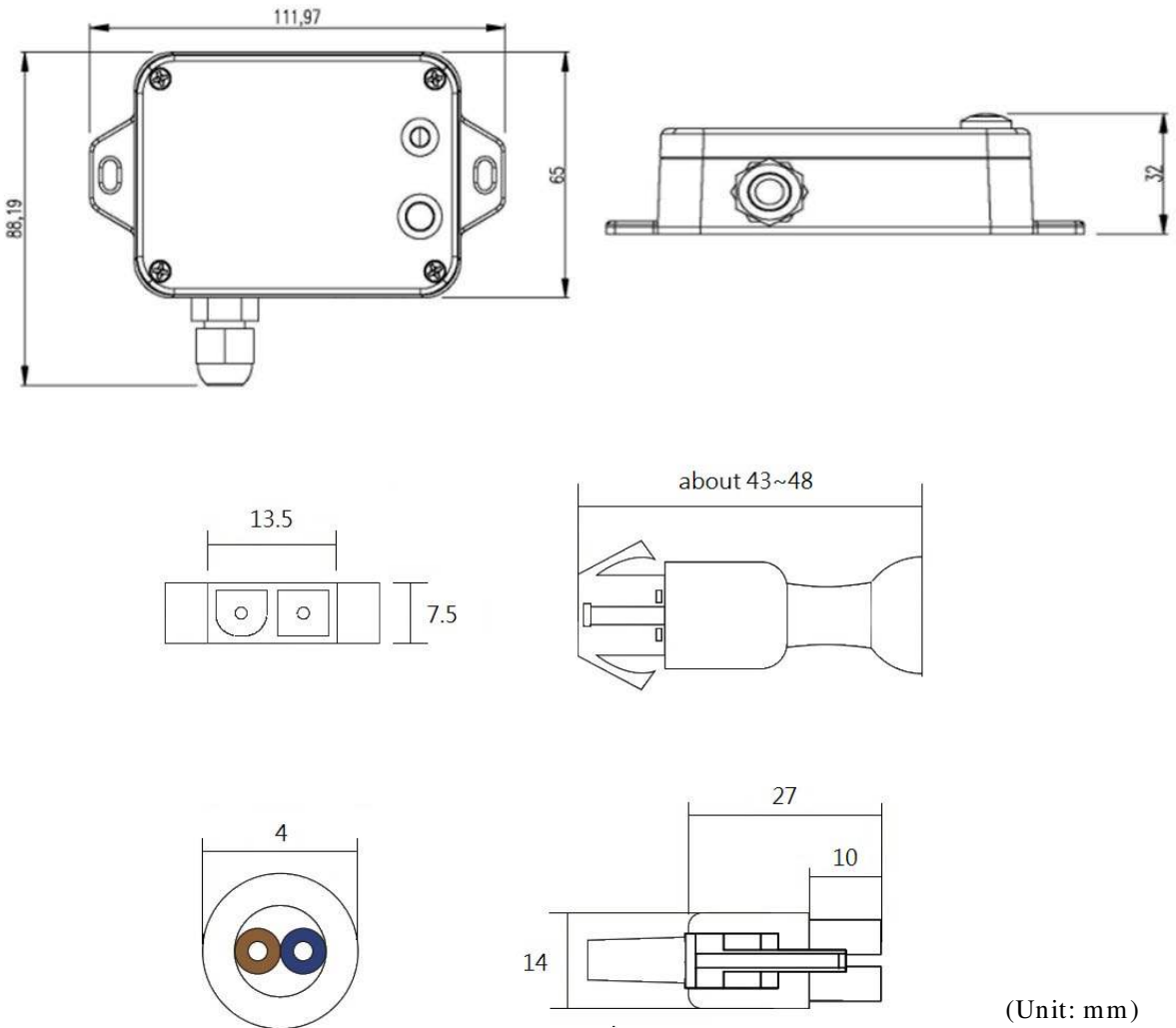
*1. Actual range may vary depending on environment.

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

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Example Applications

• Engine room

• Warehouse

• Smart home

• Archives

• Air conditioning

• Semiconductor plant

• Data center

Technical Specifications

(Unit: mm)

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Electric

Input Power	2 x 3.6v ER14505 AA size lithium batteries (2400mah/section)
Battery Life	5 years (Conditions: ambient temperature 25 °C, 15 min heartbeats, txpower = 20dBm, LoRa spreading factor SF = 10)
Standby Current	20uA
Wake up Current	6.3mA@3.3V
Low Voltage Threshold	3.2V
Receiving Current (max)	11mA @3.3V
Transmitting Current (max)	120mA/3.3V
Battery Measurement Accuracy	±0.1V

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

Non-positioning Leakage Rope Sensor

Material	Conductive Polyethylene + Alloy Wire
Working Temperature (Max.)	75° C
Diameter	5.5mm
Length	3000mm (±5mm)
Fire Rating Grade	2 Pressure Vent Cable
Quality	18g/m
Color	Orange
Breaking Strength	60 kg
Detect Core Resistance	Less than 5 ohms/100 meters
Recommended Max. Length	300 meters

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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)
Spread Technique	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

Dimension	Main Part: L: 112mm*W: 65mm*H: 32mm
Weight	141g
Environment Temperature Range	-20℃ ～ 55℃
Environment Humidity Range	<90% RH (No condensation)
Storage Temperature	-40℃ ～ 85℃