

Wireless Temperature and Humidity Sensor & Water Leakage

Wireless Sensor Network Based on LoRa Technology



R718WBA

Data Sheet

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Introduction

The R718WBA is a wireless communication device that detects ambient air temperature and humidity and non-locating leak detection. The R718WBA detects the temperature and humidity of the air. At the same time, it detects the presence or absence of water leakage through the 2-core non-locating leak detection sensor line, and transmits the detected data to the gateway through the wireless network. The SX1276 wireless communication module is used.

Main Characteristic

- Adopt SX1276 wireless communication module
- 2 section ER14505 batteries AA size (3.6V/section) parallel power supply
- Non-locating leak detection
- Protection class IP65
- Air temperature and humidity detection
- Compatible with LoRaWAN™ Class A
- Frequency hopping spread spectrum (FHSS)
- The base is attached with a magnet that can be attached to a ferromagnetic material object
- Applicable to the third-party platforms: Actility/ThingPark, TTN, MyDevices/Cayenne
- Low power consumption and long battery life

Note:

Battery life is determined by the sensor reporting frequency and other variables, please refer to http://www.netvox.com.tw/electric/electric_calc.html

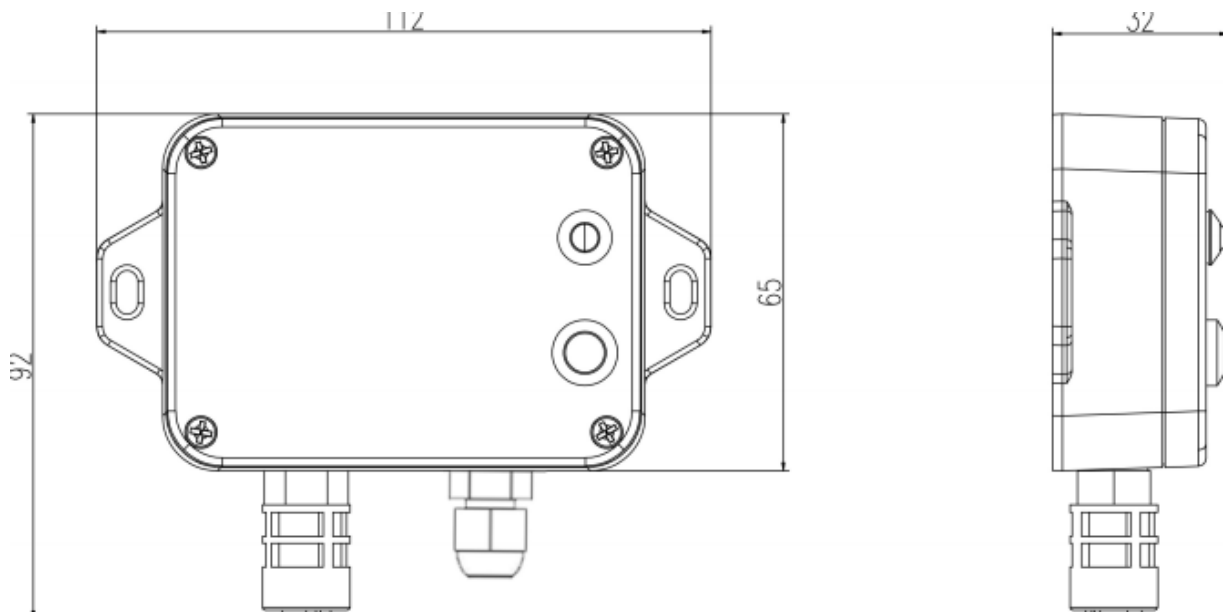
On this website, users can find battery life of various models in different configurations.

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Application

- Engine room
- Warehouse
- Smart home
- Archives
- Air conditioning
- Semiconductor plant
- Data center

Dimension



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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	25uA
Wakeup Current	6.3mA/ 3.3V
Low Battery Threshold	3.2V
Transmitting Current (max)	120mA/ 3.3V
Receiving Current (max)	11mA/ 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	60kg
Detect Core Resistance	Less than 5 ohms/100 meters
Recommend Max. Length	300 meters

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Temperature Sensor

Temperature Detecting Range	-20°C~55°C
Temperature Accuracy	±1°C@25°C
Humidity Detecting Range	0%RH-100%RH
Humidity Accuracy	±4%RH @25°C

Frequency

Frequency Range	863MHz-928MHz 470MHz-510MHz
TX Power	US915 20dbm; AS923 16dbm; AU915 20dbm; CN470 19.15dbm; EU868 16dbm; KR920 14dbm; IN865 20dbm;
Receiving Sensitivity	-136 dBm (LoRa, Spreading Factor=12, Bit Rate = 293bps) -121 dBm (FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	Build-in antenna
Communication Distance	10 km (Visible linear obstacle-free transmission distance, actual transmission distance depending on the environment.)
Data Transfer Rate	0.3kbps ~ 50kbps
Modulation	LoRa / FSK (Note: choose one of them)
Supportable LoRaWAN Frequency	EU863-870, US902-928, AU915-928, KR920-923, AS923, CN470-510 (Note: The frequency band is optional and needs to be configured before shipment.)

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Physical

Dimension	Main Part: L: 112 mm x W: 92 mm x H: 32 mm
Environment Humidity Range	<90 %RH (No condensation)
Operating Temperature	-20°C to 55 °C
Storage Temperature	-40°C to 85 °C