
Wireless Soil Moisture Sensor

Wireless Soil Moisture Sensor R718PB13 Data Sheet

Wireless Sensor Network Based on LoRa Technology



R718PB13

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Wireless Soil Moisture Sensor

General Description

The device is a wireless communication device that detects the moisture content of the soil. It can detect the moisture content of the soil and transmit the detected data to other devices through the wireless network. It uses the SX1276 wireless communication method.

Main Characteristics

- Adopt SX1276 wireless communication module
- 2 sections of ER14505 battery AA SIZE (3.6V / section) parallel power supply
- Protection class IP65
- The base is attached with a magnet that can be attached to a ferrous object
- Soil moisture content detection

Example Applications

- Soil moisture content detection
- Other

Features of NETVOX Sensors

- 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.

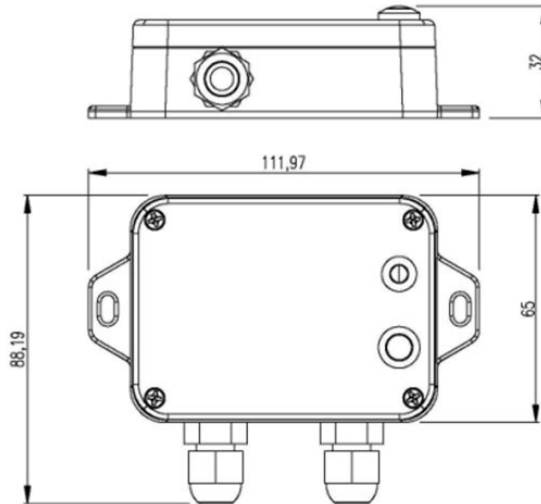
- Over-the-air updates (future)
- Third-Party online wireless sensor monitoring and notification system to configure sensors, view data and set alerts via SMS text and email (optional)
- Available third-party platform: Actility/ThingPark, TTN, MyDevices/Cayenne

*1. Actual range may vary depending on environment.

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

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Technical Specifications



(Uni. mm)

Electric

Power Supply	2 sections of ER14505 battery AA SIZE (3.6V / section) parallel power supply
Operating Current	Battery life is about 3.4 years (Condition: ambient temperature 25 ° C, report once every 15 mins, txpower = 20 dBm, LoRa spread factor SF = 10)
Sleeping Current	38uA
Wake up Current	6.3mA@3.3V
TX Current	120mA @3.3V
RX Current	11mA @3.3V
Battery Measurement Accuracy	±0.1V

*The actual electrical characteristics will vary depending on the power supply voltage.

Frequency

Frequency Range	863MHz-928MHz 470MHz-510MHz
TX Power	19dBm±1dBm
Rx Sensitivity	-136dBm (LoRa, Spreading Factor=12, Bit Rate=293bps) -121dBm (FSK,Frequency deviation=5kHz, Bit Rate=1.2kbps)

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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

EC-5 Sensor

Rated power Supply	2.5VDC
Water Content Detection Accuracy	±3%VWC
Moisture Content Resolution	0.1% VWC in mineral soil, 0.25% VWC in growth medium
Moisture Content Detection Range	0-100%VWC

Physical

Size	L: 112mm*W: 65mm*H: 32mm
Ambient Temperature Range	-20°C to 55°C
Body Weight	160g
Ambient Humidity Range	<90% RH (non-condensing)
Storage Temperature Range	-40°C to 85°C

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