Three-Axis Digital Accelerometer & NTC Thermistor

Three-Axis Digital Accelerometer&NTC Thermistor R718E Data Sheet

Wireless Sensor Network Based on LoRa Technology

R718E

Three-Axis Digital Accelerometer & NTC Thermistor

General Description

It can detect the movement or vibration of the device, send a signal to the gateway for processing, and externally connect one NTC thermistor to detect the surface temperature of the measured object. It uses the SX1276 wireless communication module.

Main Characteristics

•Adopt SX1276 wireless communication module
•2 ER14505 battery AA SIZE (3.6V / section) parallel power supply
•Acceleration sensor detection
•The base is attached with a magnet that can be attached to a ferrous object

Example Applications

• Smart home
• Industrial equipment
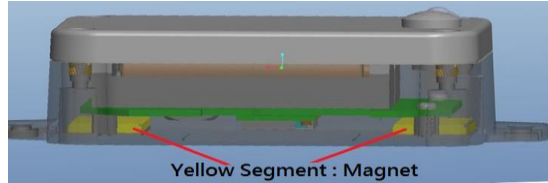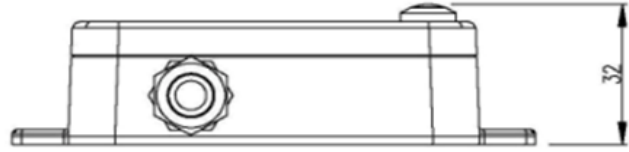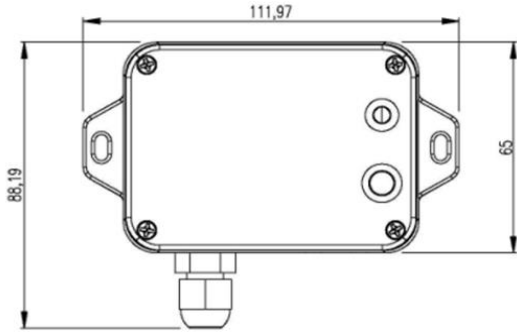• Temperature measurement system
• Other

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
• R718X series carry magnets which can be attached to ferromagnetic materials and objects

*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 (Main Part)

Yellow Segment : Magnet

(Uni. mm)

Electric

Input Power	2 x 3.6V ER14505 AA lithium batteries (3.6V 2400mah/section）
Sleeping Mode	80uA
Wake up Mode	6.3mA@3.3V
Receiving Current (max)	11mA @3.3V
Transmitting Current (max)	120mA/3.3V
Battery Voltage Measurement Accuracy	±0.1V
Low Voltage Threshold	3.2V

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

NTC Thermistor Sensor

NTC Temperature Range	-40℃ -125℃
25 Degree Resistance Value	10k (typical)
B value B25/50	3990
Temperature Measurement Accuracy	The basic error limit of NTC thermistor: -40~125°C +-3°C; Measurement error caused by the wire : ≦ 2 °C.

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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)
Antenna Type	Build-in antenna
Communication Range	Up to10 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

Physical

Dimension	Main Part: L: 112mm*W: 88.19mm*H: 32mm
Weight	141g
Environment Temperature Range	-20℃ ～ 55℃
Environment Humidity Range	<90% RH (No condensation)
Storage Temperature	-40℃ ～ 85℃

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