

Wireless Activity Event Counter

Wireless Sensor Network Based on LoRa Technology

R313FB Data Sheet



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Wireless Activity Event Counter

Overview

The device detects the number of movements or vibrations (such as detecting the motor a few times a day). The maximum number of movements or vibrations can reach 2^{32} times (theoretical value). The device sends the information of the number of movements or vibrations to the gateway for processing. It adopts SX1276 wireless communication module.

Main characteristics

- Adopt SX1276 wireless communication module
- 2 sections of 3.0 V CR2450 battery
- Vibration counter detection
- Compatible with LoRaWAN™ Class A
- Support frequency hopping spread spectrum technology
- Through third-party software platforms, sensor settings can be configured, data can be read, and alerts can be set via SMS text and email (optional)
- Applicable to 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.

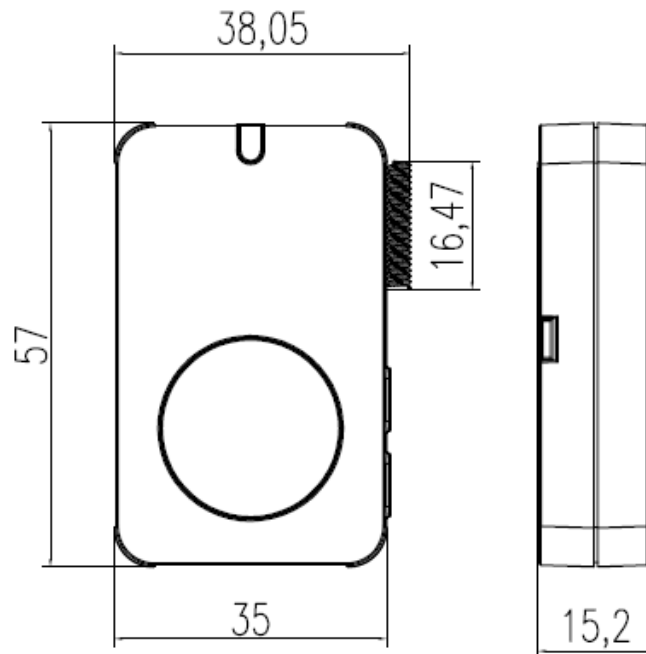
Please refer to http://www.netvox.com.tw/electric/electric_calc.html.

On this website, users can find various types of batteries life time in different configurations.

Application Scenario

- Vibration counter detection
- Other

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Dimensions**Electric**

Input Power	2 x 3.0V CR2450 battery
Operation Voltage Range	DC 2.4 V to 3.0V
Standby Current	50 μ A / 3.0V
Emission Current (max)	120mA / 3.0V
Receiving Current (max)	11mA / 3.0V
Battery Measurement Accuracy	\pm 0.1V

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Frequency

Frequency Range	863MHz-928MHz 470MHz-510MHz
Power Output	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	External antenna
Communication Distance	Up to 10 km (insight obstacle-free transmission distance, actual transmission distance depends on the real environment)
Data Transfer Rate	0.3kbps ~ 50kbps (LoRa) 1.2kbps ~ 300kbps (FSK)
Modulation	LoRa / FSK (Note: available to choose one of them)
LoRaWAN Frequency Available	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	57 mm x 38.05 mm x 15.2 mm
Weight	48.9g
Operating Temperature	-20°C to 55 °C
Environment Humidity	<90 %RH (No condensation)
Storage Temperature	-40°C to 85 °C