
Three-Axis Digital Accelerometer

Three-Axis Digital Accelerometer R311FB Data Sheet

Wireless Sensor Network Based on LoRa Technology



R311FB

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Three-Axis Digital Accelerometer

General Description

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), and sends the information of the number of movements or vibrations to the gateway for processing. Apply SX1276 wireless communication module.

Main Property

- 2 section 3V CR2450 button battery
- Acceleration sensor detection
- Adopt SX1276 wireless communication module

Example Applications

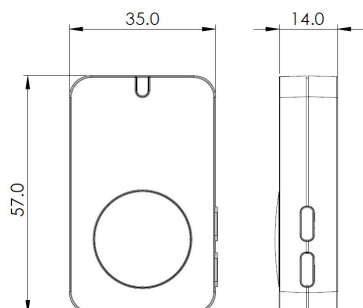
- Smart Home
- Industrial Equipment
- Security Field

Features of NETVOX Sensors

- Wireless range of 10 km *1
 - 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:
 - 5 years
 - (Conditions: ambient temperature 25 °C, 20 triggers/day, txpower = 20dBm, LoRa spreading factor SF = 10)
 - 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



Main Body

(Unit: mm)

Electric

Input Power	2pcs 3.0V CR2450 button battery
Working Voltage	DC 2.4V~3.0V
Standby Current	41 uA /3.0V
Transmitting Current (max)	120 mA / 3.0V
Receiving Current (max)	11 mA / 3.0V
Battery Voltage Measurement Accuracy	$\pm 0.1V$

Frequency

TX Power	19dBm \pm 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	10 km (line-of-sight, 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

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Physical

Main Body Dimension	57mm x 35mm x 14mm
Weight	48.9 g
Operating Temperature	-20℃ ~ 55℃
Environment Humidity Range	<90% RH (No condensation)
Storage Temperature	-40℃ ~ 85℃

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