

Wireless Window/Door Sensor R311CA Data Sheet

Wireless Sensor Network Based on LoRa Technology



R311CA

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Wireless Window/Door Sensor

General Description

The R311CA device has a built-in reed switch sensor, and can be connected to a certain number of reed switches through external expansion. It can be used for door and window switch status detection. It can realize wireless alarm and other functions through built-in wireless module, and is compatible with LoRaWAN protocol. It can be easily networked with other related devices. The R311CA is durable and ensures optimum use and is a low power consumption device. Due to their small size, they can be installed anywhere, they are wireless, so they take up very little space.

Main Property

- 2 section 3V CR2450 button battery
- Compatible with LoRaWAN protocol
- Apply SX1276 wireless communication module

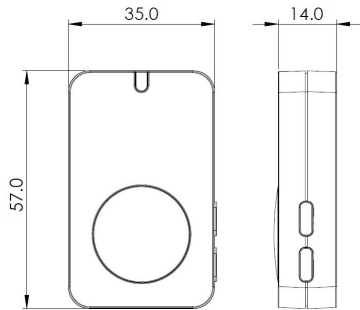
Example Applications

- Smart home
- Anti-theft system
- 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

Wireless Window/Door Sensor

Technical Specifications


Main Body

(Unit: mm)

Electric

Input Power	2pcs 3.0V CR2450 button battery
Working Voltage	DC 2.4V~3.0V
Standby Current	10uA /3.0V
Transmitting Current (max)	120mA / 3.0V
Receiving Current (max)	11mA / 3.0V
Battery Voltage Measurement Accuracy	±0.1V

Frequency

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	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

Wireless Window/Door Sensor

External Wire Characteristics

Wire Material	UL2468 28AWG
Wire Maximum Temperature	80 ° C
Wire Weight	5g
Wire Diameter	1mm
Wire Length	1000mm (±5mm)
Wire Flame Resistance Rating	VW-1

Physical

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

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