
Wireless Door/Window Sensor

Wireless Door/Window Sensor R311A Data Sheet

Wireless Sensor Network Based on LoRa Technology

 LoRa Alliance Certified™



R311A

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 LoRa Alliance Member™ **zigbee alliance member**

Wireless Door/Window Sensor



R311A Appearance

Wireless Door/Window Sensor

General Description

NETVOX Wireless Door / Window Sensor can be used to detect when a door or window is opened and closed using a magnetic switch.

- Detects when a door or window is accessed.
- Uses magnetic detection switch.

Principle of Operation

NETVOX Wireless Door / Window Sensor is a magnetic contact sensors available to detect opening or closure of doors and windows. The radio transmission is based on the new disruptive LoRa long range technology. R311A will transmit information and data to the server from openings and closings of doors, windows, gates etc based on the desired behavior. The low battery consumption device is long lasting which ensures optimum usage.

Thanks to small sizes, they can be installed everywhere. They are wireless so they take up minimal floor space. The transmission is direct to a central center that can be programmed to trigger an alarm system. Thanks to innovation, these wireless sensors are more reliable and precise and they can detect several applications.

Example Applications

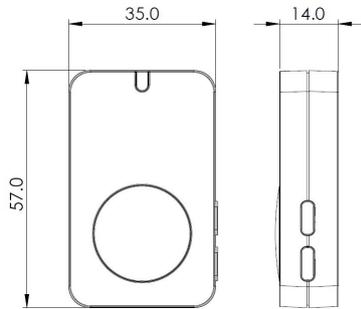
- Commercial property door and window access
- Residential property door and window access
- Bank owned for closure properties access monitoring
- Restricted area monitoring
- IT server rooms and closets
- Freezer and cooler doors
- Shipping cargo bay door monitoring
- Garage door monitoring

Features of NETVOX Sensors

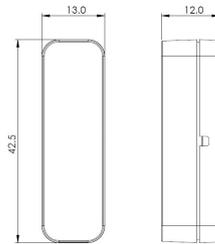
- Wireless range of 10 km *1
 - LoRaWAN™ Class A compatible
 - Frequency Hopping Spread Spectrum (FHSS)
 - Improved interference immunity
 - Improved power management for longer battery life
 - Encrypt-RF™ Security (Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)
 - Battery Life*2:
 - 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



Magnetic Contact

(Unit: mm)

Electric

Input Power	2pcs 3.0V CR2450 button battery
Working Voltage	DC 2.4V~3V
Standby Current	12uA/3.0V
Transmitting Current (max)	120mA/3.0V
Receiving Current (max)	11mA @3.0V
Low Voltage Threshold	2.4V
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 Door/Window Sensor

Physical

Main Body Dimension	57mm x 35mm x 15mm
Magnet Dimension	43mm x 13mm x 12mm
Weight	43.8g
Operating Temperature	-20°C ~ 55°C
Environment Humidity Range	<90% RH (No condensation)
Storage Temperature	-40°C ~ 85°C

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