Wireless Dry Contact Sensor

R313CA Data Sheet

Wireless Sensor Network Based on LoRa Technology

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Introduction

R313CA is connected with two external dry contacts for customers to access the device under test, such as switches, buttons, sensors, relays, reed switches, etc. R313CA can detect the electrical level change of the device under test. At the same time, it can realize wireless alarm and other functions through the built-in wireless module.

This device is compatible with the LoRaWAN protocol. The device integrates a chip module that conforms to the LoRaWAN wireless protocol, and joins into the gateway to display the collected data in the gateway. Users can monitor all changes of the network by accessing the gateway through the cloud, realize remote control of the Internet easily, and achieve the functions of energy saving, emission reduction, and environmental protection.

R313CA has the characteristics of long-lasting durability and ensuring the best use. It is a low power consumption device. Because of the small size, it can be installed anywhere. The device is wireless, so it takes up little space.

Main Characteristic

- 2 sections 3V CR2450 button battery
- Compatible with LoRaWAN protocol
- Adopt SX1276 wireless communication module
- Frequency hopping spread spectrum
- Configuring parameters and reading data via the third-party software platforms, and set alarms via SMS text and email (optional)
- Applicable to the 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
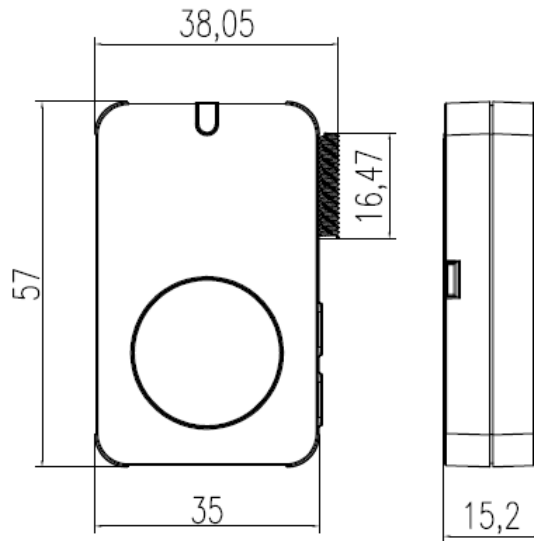
http://www.netvox.com.tw/electric/electric_calc.html

On this website, users can find battery lifetime for varied models at different configurations.

Application Scenario

● The dry contact device for home or business

Dimension

Electric

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

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Frequency

Frequency Range	863MHz-928MHz 470MHz-510MHz
TX Power	US915　　20dbm； AS923　　16dbm； AU915　　20dbm； CN470　　19.15dbm； EU868　　16dbm； KR920　　14dbm； IN865　　 20dbm；
Receive Sensitivity	-136dBm （LoRa，Spreading Factor=12，Bit Rate=293bps）； -121dBm (FSK,Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	External antenna
Communication Range	10km (visible linear obstacle-free transmission distance, actual transmission distance depending on the environment)
Data Transfer Rate	0.3kbps～50kbps
Modulation Method	LoRa/FSK (Note: choose one of them)
Supportable LoRaWAN Band	EU863-870, US902-928, AU915-928, KR920-923, AS923, CN470-510 (Note: The frequency band is optional and needs to be configured before shipment.)

External Dry Contact

Leakage Line Material	UL2468 28AWG
Leakage Line Max Temperature	80°C
Leakage Line Weight	5g
Leakage Line Diameter	1mm
Leakage Line Length	1000mm（±5mm）
Leakage Line Fire-resistance Rating	VW-1

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Physical

Host Body Dimension	57mm x 38.05mm x 14mm
Weight	48.9g
Ambient Temperature Range	-20°C ～ 55°C
Ambient Humidity Range	＜90%RH (No condensation)
Storage Temperature Range	-40°C ～ 85°C