
Wireless 2-Input Dry Contact Interface

Wireless Sensor Network Based on LoRa Technology



R718J2

Data Sheet

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Wireless 2-Input Dry Contact Interface

Introduction

Netvox wireless 2-Input dry contact sensors can be used to detect contact between two wired contact points. This sensor can be used with an external mechanical switch or a contact plate to alert the user via APP when the contacts touch or a switch is triggered.

Main Characteristic

- Adopt SX1276 wireless communication module
- Compatible with LoRaWAN™ Class A
- Improved interference immunity
- Encrypt-RF™ Security (Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)
- The base is attached with a magnet that can be attached to a ferromagnetic material object
- Frequency hopping spread spectrum (FHSS)
- Configuration parameters can be configured through third-party software platforms, data can be read and alarms can be set 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

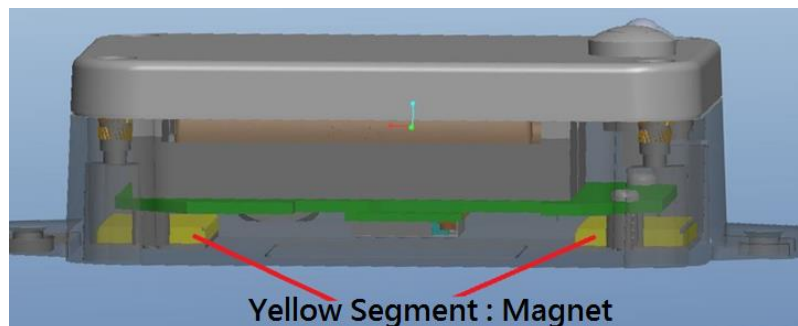
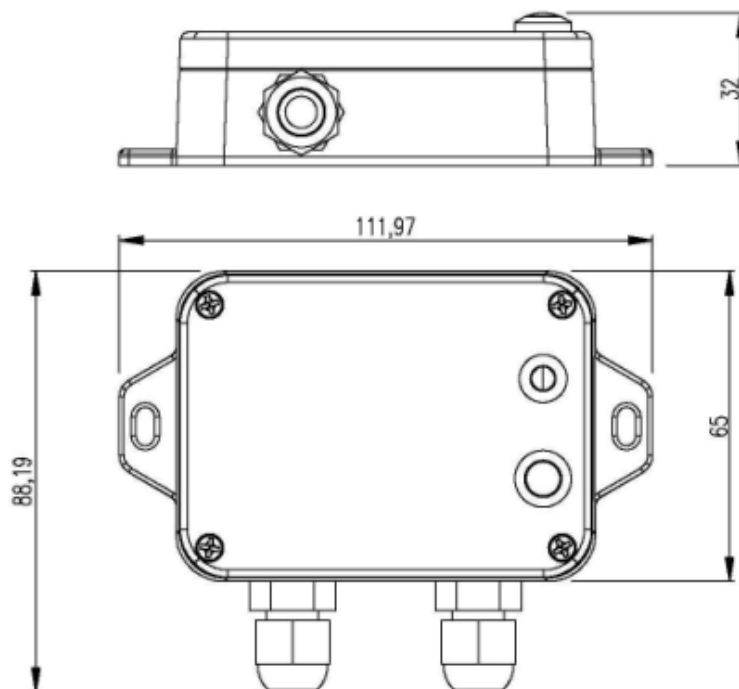
On this website, users can find battery life of various models in different configurations.

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Application

- Tamper switches
- Barn door access monitoring
- Freezer/ cooler door access
- Freezer/ cooler doors (to determine if they are not closed all the way)
- Convenience store cooler doors (to determine if they are not closed all the way)
- Forklift seat switches
- Dry contact switches

Dimension



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Figure 2 Dimensions of main engine shell

Electric

Input Power	2 x 3.6V ER14505 AA lithium batteries (3.6V 2400mah/section)
Standby Current	22uA
Wakeup Current	6.3mA/ 3.3V
Transmitting Current (max)	120mA/ 3.3V
Receiving Current (max)	11mA/ 3.3V
Battery Measurement Accuracy	± 0.1V
Low Voltage Threshold	3.2V

External Wire Characteristics

Wire material	UL2547 28AWG
Wire temperature (max)	80°C
Wire outer diameter (max)	2mm
Wire length	1000mm (±5mm)
Wire flame resistance rating	VW-1

Frequency

Frequency Range	863MHz-928MHz 470MHz-510MHz
TX Power	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

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	(FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	Build-in antenna
Communication Distance	10 km (Visible linear obstacle-free transmission distance, actual transmission distance depending on the environment.)
Data Transfer Rate	0.3kbps ~ 50kbps
Modulation	LoRa / FSK (Note: choose one of them)
Supportable LoRaWAN Frequency	EU863-870, US902-928, AU915-928, KR920-923, AS923, CN470-510 (Note: The frequency band is optional and needs to be configured before shipment.)

Physical

Dimension	L: 112 mm x W: 88.19 mm x H: 32 mm
Weight	150g
Environment Humidity Range	<90 %RH (No condensation)
Operating Temperature	-20°C to 55 °C
Storage Temperature	-40°C to 85 °C