Wireless Hall Type Open/Close Detection Sensor

Wireless Sensor Network Based on LoRa Technology

R718LB

Data Sheet

Wireless Hall Type Open/Close Detection Sensor

Introduction

This device is equipped with a Hall sensor, which can be used for door and window switch state detection. It can realize wireless alarm and other functions through the built-in wireless module. It applies SX1276 wireless communication module.

Features

- SX1276 wireless communication module
- 2 ER14505 battery AA SIZE (3.6V / section) parallel power supply
- Hall sensor detection
- Compatible with LoRaWAN™ Class A
- Frequency hopping spread spectrum (FHSS)
- Magnetic base
- 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: Please visit http://www.netvox.com.tw/electric/electric_calc.html For detailed information about battery life calculation.

Applications

- Door and window switchgear
- Others

Dimension

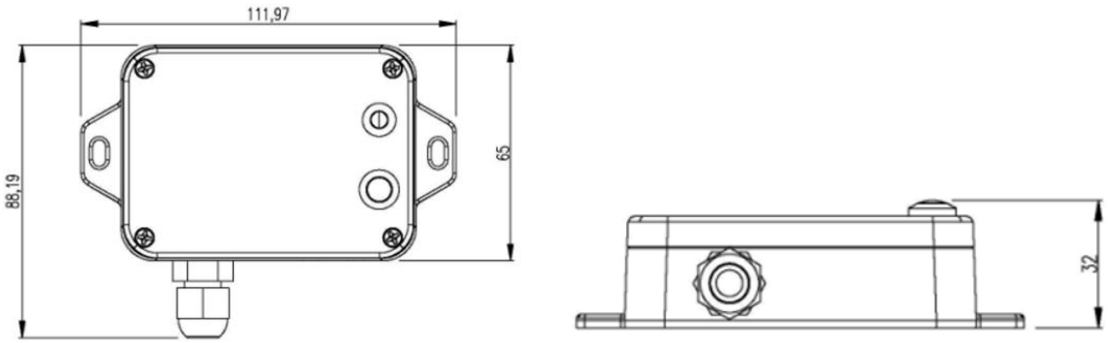

Figure 2 Dimensions of main engine shell

Electrical Specifications

Input Power	2 x 3.6V ER14505 AA lithium batteries (3.6V 2400mah/section)
Operation Voltage Range	DC 3.1V to 3.65V
Battery Life	5 years (Conditions: ambient temperature 25 °C, 15 min report once, txpower = 20dBm, LoRa spreading factor SF = 10)
Standby Current	23uA
Wakeup Current	7.2mA (Typical value) Wakeup current range 0.8mA-20 mA * When not transmitting /receiving LoRa data)
Low Battery Threshold	3.2V
Battery Measurement Accuracy	± 0.1V

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Module R100H

Wake-up Current	0.8mA - 8mA/ 3.3V
RF Receiving Current (max)	11mA/ 3.3V
RF Transmitting Current (max)	120mA/ 3.3V

Hall Sensor Characteristics

External Hall Sensor Housing Size	42mm*13mm*12mm
Performance Characteristics	All-pole sensing, the magnet can activate either pole.
Hall Sensor Working Temperature Range	-40°C to 85°C
Push-pull Output	No external pull-up resistor required
Hall Sensor Sensing Distance	Less than 3cm.
Cable Length	1m

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 (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 (LoRa) 1.2kbps ~ 300kbps (FSK)
Modulation	LoRa / FSK (Note: choose one of them)
Supportable LoRaWAN Frequency	EU863-870, US902-928, AU915-928, KR920-923, AS923-1, AS923-2, AS923-3, IN865-867,CN470-510 (Note: The frequency band is optional and needs to be configured before shipment.)

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Physical Properties

Dimension	L: 112 mm x W: 65 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