

Wireless Light Sensor

Wireless Sensor Network Based on LoRa Technology



R311B Data Sheet

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Introduction

R311B is a Wireless Light Sensor based on the LoRaWAN open protocol (Class A).

When the illuminance exceeds the set threshold, a report will be sent immediately.

Main Characteristic

- 2 sections 3.0V CR2450 button batteries in parallel
- Compatible with LoRaWAN protocol
- Adopt SX1276 wireless communication module
- Illumination detection
- Compatible with LoRaWAN™ Class A
- Frequency hopping spread spectrum
- 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:

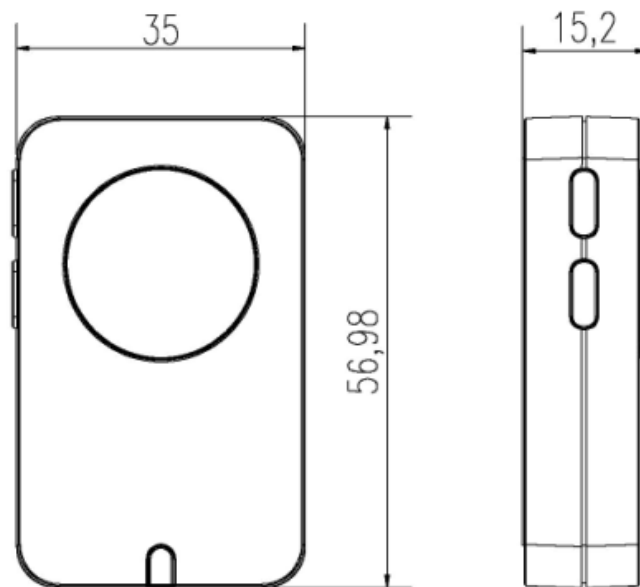
Battery life is determined by the sensor reporting frequency and other variables, please refer to http://www.netvox.com.tw/electric/electric_calc.html

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

Application

- Light intensity detecting area

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Dimension**Electric**

Input Power	2 x 3.0V CR2450 button batteries in parallel (The capacity of each CR2450 battery is 620mah.)
Operating Voltage Range	2.4V to 3.0V
Low Voltage Threshold	2.4v
Battery Measurement Accuracy	± 0.1V
Standby Current	12uA/3.0V
Transmitting Current (max)	120mA / 3.0V
Receiving Current (max)	11mA/ 3.0V

Light Sensor

Illumination Range	1 LUX to 3000 LUX
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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
Receiving Sensitivity	-136dBm (LoRa, Spreading Factor=12, Bit Rate = 293bps) -121dBm (FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	Built-in antenna
Communication Distance	10 km (visible linear obstacle-free transmission distance, actual transmission distance depending on the environment)
Data Transfer Rate	0.3kbps to 50k bps
Modulation Method	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)

Physical

Dimension	57 mm x 35 mm x 15.2 mm
Weight	45g
Environment Humidity	<90 %RH (No condensation)
Operating Temperature	-20°C to 55 °C
Storage Temperature	-40°C to 85 °C