

# Wireless Light Sensor R311G Datasheet

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Wireless Sensor Network Based on LoRa Technology



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## Introduction

R311G has the built-in light sensor. It can be used for detecting ambient light intensity and can send the ambient illumination value wirelessly. Its wireless communication method complies with the LoRa protocol standard.

## Main Characteristic

- 2 sections 3.0V CR2450 button batteries in parallel
- Compatible with LoRaWAN protocol
- Adopt SX1276 wireless communication module
- Illumination Range: 1-3000LUX
- Illumination Accuracy: <15%
- 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

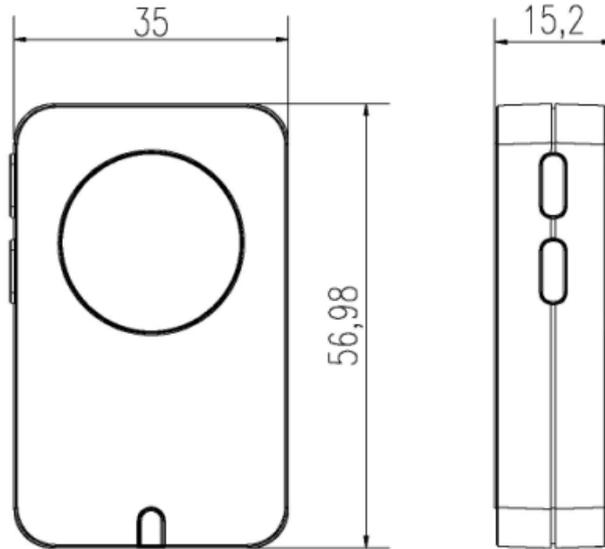
Note\*: Battery life is determined by the sensor reporting frequency and other variables, please refer to [http://www.netvox.com.tw/electric/electric\\_calc.html](http://www.netvox.com.tw/electric/electric_calc.html)

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

## Application

- Smart agriculture
- Light intensity detecting area

## Dimension



## Electric

Input Power	2 x 3.0V CR2450 button batteries in parallel (The capacity of each CR2450 battery is 620mah.)
Work Voltage Range	DC 2.4 V to 3.0V
Standby Current	12uA/3.0V
Emission Current (max)	120mA / 3.0V
Receiving Current (max)	11mA/ 3.0V
Battery Measurement Accuracy	± 0.1V
Illumination Accuracy	<15%

## 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	External 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	32.3g
Environment Humidity	<90 %RH (No condensation)
Operating Temperature	-20°C to 55 °C
Storage Temperature	-40°C to 85 °C