
Wireless Light Sensor

Wireless Light Sensor R311G Data Sheet

Wireless Sensor Network Based on LoRa Technology

 LoRa Alliance Certified™



R311G

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Wireless Light Sensor



R311G Appearance

Wireless Light Sensor

General Description

NETVOX Wireless Light Sensor R311G, the built-in photosensitive sensor, can be used for external ambient light intensity detection. Together with other devices to perform wireless dimming functions, and wireless communication meets LoRa protocol standards. R311G is the environmental illuminance automatic detector and the reporter which can send out the environmental illumination report and is a low-power, long range, wireless sensor that can accurately detect environmental illuminance indoor.

Principle of Operation

R311G is able to read environmental illuminance over the LoRaWAN network, mainly used to detect the environmental illuminance indoor, which through the wireless network communication module to collect the data sent to the data platform displayed.

Example Applications

The device is universal and can be used for many applications. Ideally suited for a wide range of applications such as building automation, condition monitoring, predictive maintenance, security, healthcare and many more use cases. For example:

Home / Schools / Classroom / Reading room / Laboratory
Offices PC room / Working / Meeting room / Canteen / Restroom
Factories Production hall / Laboratory, inspection work / Storage
Hospitals / Bedroom / Entrance area / Restaurant / Bars / Staircases

Features of NETVOX Sensors

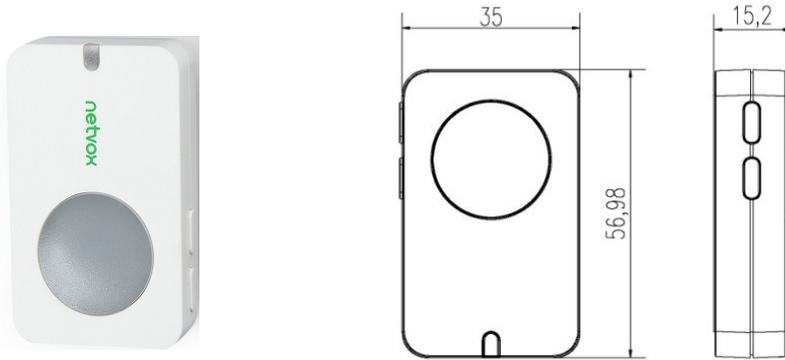
- LoRaWAN™ Class A compatible
- Frequency Hopping Spread Spectrum (FHSS)
- Improved interference immunity
- Improved power management for longer battery life
- Encrypt-RF™ Security (Diffie-Hellman Key Exchange + AES-128 CBC for sensor data messages)
- Battery Life*2:
- Please refer to web: http://www.netvox.com.tw/electric/electric_calc.html
- At this website, users can find battery life time for various models at different configurations.
- Over-the-air updates (future)
- Third-Party online wireless sensor monitoring and notification system to configure sensors, view data and set alerts via SMS text and email (optional)
- Available third-party platform: Actility/ThingPark, TTN, MyDevices/Cayenne

*1. Actual range may vary depending on environment.

*2. Battery life is determined by sensor reporting frequency and other variables

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Technical Specifications



(Unit: mm)

Electric

Input Power	2pcs of 3.0V CR2450 button battery
Operating Power	2.4V~3V
Standby Current	12uA/3.0V
Transmitting Current (max)	120mA/3.0V
Receiving Current (max)	11mA/3.0V
Brightness Detecting Range	1~3000LUX
Low Voltage Threshold	2.4V
Battery Voltage Measurement Accuracy	±0.1V

Frequency

TX Power	19dBm±1dBm
Rx Sensitivity	-136dBm (LoRa, Spreading Factor=12, Bit Rate=293bps) -121dBm (FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	Build-in antenna
Communication Range	Up to 10 km, the actual transmission distance depends on the environment.
Data Transfer Rate	0.3kbps~50kbps
Spread Technique	LoRa/FSK
Available Frequency	EU863-870, US902-928, AU915-928, KR920-923, AS923, CN470-510 Configured before shipment

Wireless Light Sensor

Physical

Main Body Dimension	57mm x 35mm x 15.2mm
Weight	32.3g
Operating Temperature	-20°C ~ 55°C
Environment Humidity Range	<90% RH (No condensation)
Storage Temperature	-40°C ~ 85°C

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