

# Wireless Light Sensor

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Wireless Sensor Network Based on LoRa Technology



## R718PG Data Sheet

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## Wireless Light Sensor

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### Introduction

The device has a built-in light sensor that can be used for ambient light intensity detection. It adopts the SX1276 wireless communication module. R718PG detects the ambient light intensity value and joins to the gateway. The collected data is displayed in the gateway.

### Main Characteristic

- Apply SX1276 wireless communication module
- 2 ER14505 batteries AA size (3.6V / section) parallel power supply
- IP Ratings: IP65 / IP67 (optional)
- The base is attached with a magnet that can be attached to a ferromagnetic material object
- 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)

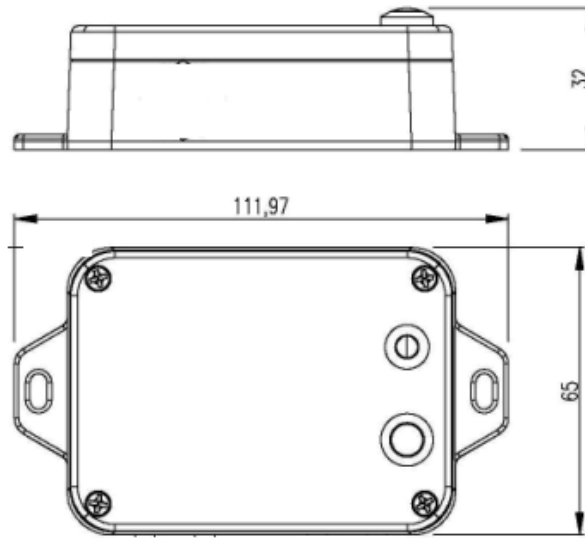
On this website, users can find battery life of various models in different configurations.

### Application

- Illuminance detection
- Others

**Wireless Light Sensor**

**Dimension**



(Unit: mm)

**Electric**

Input Power	2 x ER14505 AA size lithium batteries in parallel (3.6V 2400mAh/ section)
Work Voltage Range	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	17uA
Wakeup Current	7.5mA (Typical value) Wakeup current range 0.8mA-20 mA * (When not transmitting /receiving LoRa data)
Low Battery Voltage Threshold	3.2V
Battery Measurement Accuracy	±0.1V

**Module-R100H**

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

\* Specific electrical characteristics may vary depending on the power supply voltage.

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### Light Sensor

Illuminance Range	0.01 LUX to 157K LUX
Illuminance Accuracy	±20% (In the sunlight) ±10% (Test Condition: white LED light, 6500K, room temperature)
Communication Method	I <sup>2</sup> C communication

### 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	Built-in antenna
Communication Distance	10 km (visible linear obstacle-free transmission distance, actual transmission distance depending on the environment)
Data Transfer Rate	0.3 kbps ~ 50 kbps (LoRaWAN) 1.2 kbps ~ 300 kbps (FSK)
Modulation	LoRa / FSK (Note: choose one of them)
Supportable LoRaWAN Frequency	EU863-870, US902-928, AU915-928, KR920-923, AS923, IN865, CN470-510 (Note: optional, to be done in the factory configuration)

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**Wireless Light Sensor**

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**Physical**

Dimension	L:112mm * W: 65mm * H: 32mm
Weight	About 150g
Environment Humidity	< 90 %RH (No condensation)
Operating Temperature	-20°C to 55 °C