Wireless Light Sensor

Wireless Light Sensor R718G
Data Sheet

Wireless Sensor Network Based on LoRa Technology

R718G

Wireless Light Sensor

General Description

The device has a built-in light sensor that can be used for ambient light intensity detection. It uses the SX1276 wireless communication module. The R718G detects the ambient light intensity value and adds it to the gateway. The collected data is displayed in other devices.

Main Characteristics

- Apply SX1276 wireless communication module
- 2 ER14505 batteries AA SIZE (3.6V / section) parallel power supply
- The base is attached with a magnet that can be attached to a ferrous object

Example Applications

- Illuminance detection
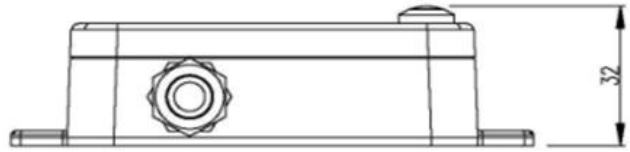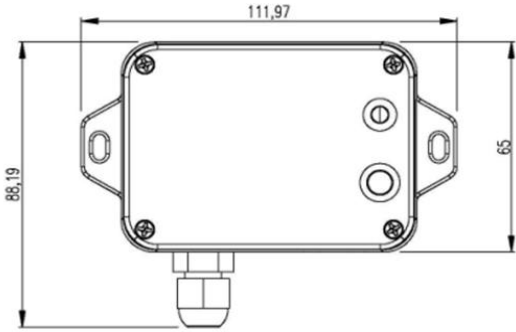- Others

Features of NETVOX Sensors

- Wireless range of 10km *1
- 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 varier 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
- R718X series carry magnets which can be attached to ferromagnetic materials and objects

*1. Actual range may vary depending on environment.
*2. Battery life is determined by sensor reporting frequency and other variables

Wireless Light Sensor

Technical Specifications (Main Part)

(Uni. mm)

Electric

Input Power	2 x 3.6V ER14505 AA lithium batteries (3.6V2400mah/section）
Sleeping Mode	18uA
Wake up Mode	6.3mA@3.3V
Receiving Current (max)	11mA @3.3V
Transmitting Current (max)	120mA/3.3V
Battery Voltage Measurement Accuracy	±0.1V
Low Voltage Threshold	3.2V

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

Light Sensor

Supply Voltage Range	2.3VDC-3.3VDC
Light Sensor Model	TSL45315
Illuminance Range	3LUX-220KLUX
Communication Method	I2C communication

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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

Physical

Dimension	Main Part: L: 112mm*W: 65mm*H: 32mm
Weight	150g
Environment Temperature Range	-20℃ ～ 55℃
Environment Humidity Range	<90% RH (No condensation)
Storage Temperature	-40℃ ～ 85℃

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