
# Multi-Sense Sensor

**Wireless Sensor Network Based on LoRa Technology**

# R31507

# Data Sheet

# Introduction

**R31507** is a comprehensive detection device with PIR, glass break detection, Digital Output, dry contact input, and an emergency button.

The radio transmission of R31507 is based on LoRa long-distance technology. According to the required behavior and state, it can transmit information and data to the server, and can directly transmit and connect to the central system of the programmable alarm system.

The sensors used are reliable, accurate, and can detect multiple applications.R31507 has the advantages of durability, beautiful appearance, multi-function integration, low power consumption, and convenient installation and use.

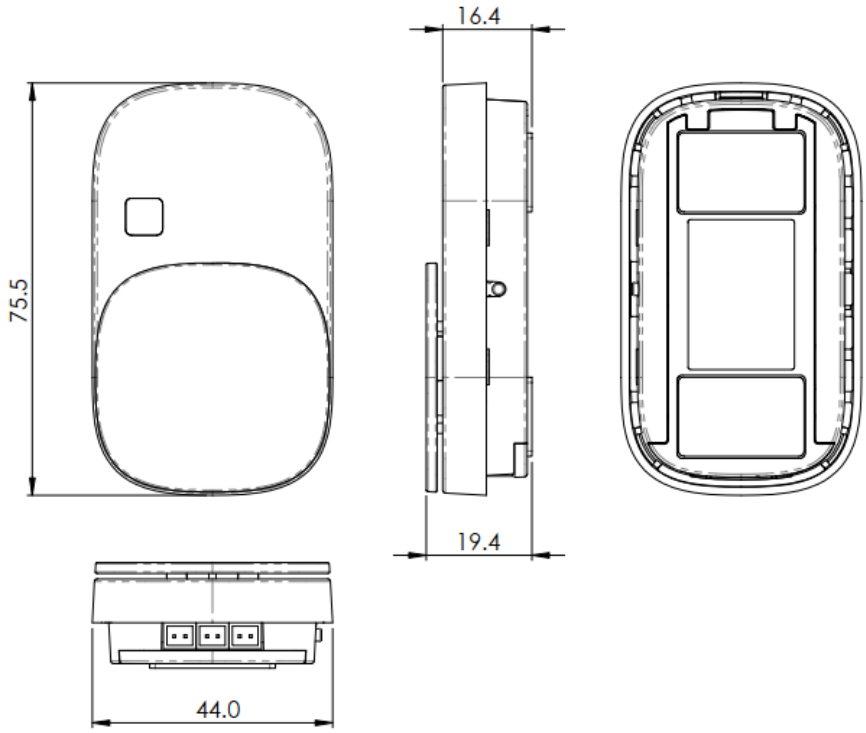
# Main Characteristic

- Adopt SX1262 wireless communication module
- 2 x 3.0V CR2450 button batteries in parallel
- Compatible with LoRaWAN™ Class A
- Frequency hopping spread spectrum (FHSS)
- Applicable to the third-party platforms: Actility/ThingPark, TTN, MyDevices/Cayenne
- Low power consumption and long battery life
- 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 the battery life of various models in different configurations.

# Application

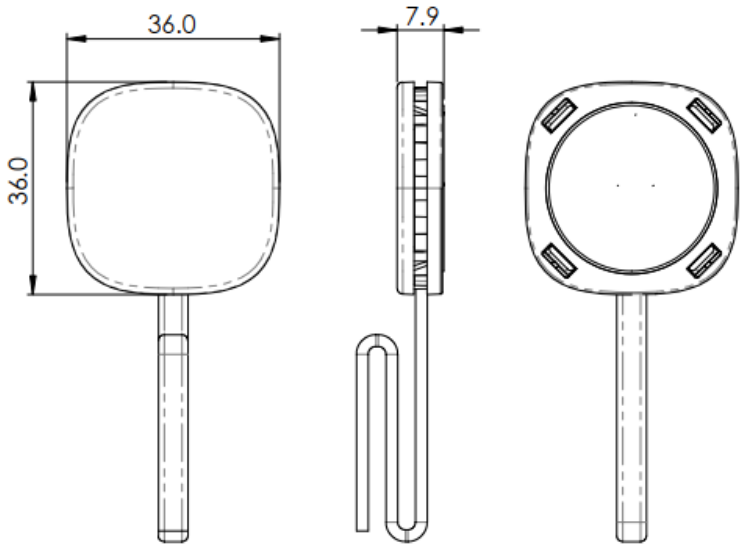
- Security system
- Villas
- Office
- Hotels and apartments
- Schools, shopping malls and supermarkets
- Others

# Dimension




Main body- Include emergency button

(75.5mm x 19.4mm x 44mm)




Glass Break Sensor

(36mm x 36mm x 7.9mm)

# The Port Types

The type of R31507 must be configured according to the rules.


| Left | Center | Right |
|---|---|---|
| Dry contact input | Digital Output | Glass break sensor |

# Electrical Characteristics

## ---Electric---

| | |
|---|---|
| Power Supply | 2* 3V CR2450 button batteries connected in parallel<br>(The capacity of a single CR2450 battery is 620mah, subject to the actual shipment) |
| Operating Voltage Range | 2.3V to 3V |
| Battery Low Voltage Alarm | 2.4V |
| Sleep Current | 21uA/3.0V |
| Battery Measurement Accuracy | ± 0.1V |

*The specific electrical characteristics will vary depending on the supply voltage

## ---PIR Sensor---

| | |
|---|---|
| Sleep Current Value | 9.5uA |
| Detectable Angle | 80 ° horizontally and 55 ° vertically |
| Detectable Range | 3m to 5m |

## ---Glass Break Sensor---

| | |
|---|---|
| Detection Mode | Piezoelectric buzzer |
| Power Supply | Self-generated voltage chip |
| Impedance | Normal (NC): 7Ω (max)<br>Alarm (NO): 1MΩ (min) |
| Sensor Sensing Range | within 2.5M radius |
| Signal Sensing Time | 1-3 seconds |
| Loop Voltage | 15VDC (max) |
| Loop Current | 25mA (max) |
| Applicable Glass Type | In theory, as long as any glass is impacted by high frequency, its vibration frequency and amplitude can be detected to a certain extent |
| Operating Temperature | -10 to 50 °C |
| Wire Length | 100cm |
| Installation | The glass at the installation position must be wiped clean first, and then the double-sided adhesive tape on the back of the detector must be torn and fixed on the glass. The detector should be installed about 10 cm from the corner of the glass frame. |

## ---Emergency Button---

| | |
|---|---|
| Average Pressing Life | 100,000 times |
| Contact Resistance | ≤200mΩ |

## ---Frequency---

| | |
|---|---|
| Frequency Range | 863MHz-928MHz 470MHz-510MHz |
| TX Power | US915 20dbm;<br>AS923 16dbm;<br>AU915 20dbm;<br>CN470 19.15dbm;<br>EU868 16dbm;<br>KR920 14dbm;<br>IN865 20dbm; |

| | |
|---|---|
| Receiving Sensitivity | -123 dBm (Frequency deviation=5kHz,Bit Rate=1.2kb/s) |
| Antenna Type | Spiral antenna |
| Communication Distance | 10 km(Visible linear obstacle-free transmission distance, actual transmission distance depending on the environment.) |
| Data Transfer Rate | 0.6kbps ~ 300kbps |
| Modulation | FSK |
| Supportable LoRaWAN Frequency | EU863-870, US902-928, AU915-928, KR920-923, AS923-1, AS923-2, AS923-3, IN865,CN470-510<br>(Note: The frequency band is optional and needs to be configured before shipment.) |

**---Physical---**

| | |
|---|---|
| Operating Temperature Range of R315 Host Body | -20°C to 55 °C |
| Environment Humidity Range | <90 %RH (No condensation) |
| Storage Temperature | -40°C to 85 °C |

# More Combinations

Please refer to this file:

http://www.netvox.com.tw/download/R315_combination.xlsx