# Wireless Emergency Button
# R312A Data Sheet

Wireless Sensor Network Based on LoRa Technology

# Wireless Emergency Button

## General Description

The R312A is a wireless emergency button that detects after pressing the emergency button and sends an alarm message to the gateway.
It uses the SX1276 wireless communication module.

## Principle of Operation

When the emergency button is pressed, the IO port of the module detects a low level, and when the emergency button is released, the IO port of the module detects a high level.

## Main Characteristics

- 2 sections of 3.0V CR2450 batteries in parallel
- Apply SX1276 wireless communication module
- Comes with key ring for easy fixing and carrying
- LoRaWAN™ Class A compatible
- Frequency Hopping Spread Spectrum (FHSS)
- 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
- 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

## Example Applications

- Emergency button devices
- Fire alarm
- Others

# Wireless Emergency Button

## Electric

### R312A

| | |
|---|---|
| Input Power | 2pcs 3.0V CR2450 button battery |
| Operating Voltage | DC 2.3V to 3V |
| Standby Current | 13uA@3V |
| Wakeup Current | 7.02mA (Typical value)<br>Wakeup current range 0.8mA-20 mA<br>* When not transmitting /receiving LoRa data) |
| Low Battery Voltage Threshold | 2.4V |
| Battery Measurement Accuracy | ± 0.1V |

### Module-R100H

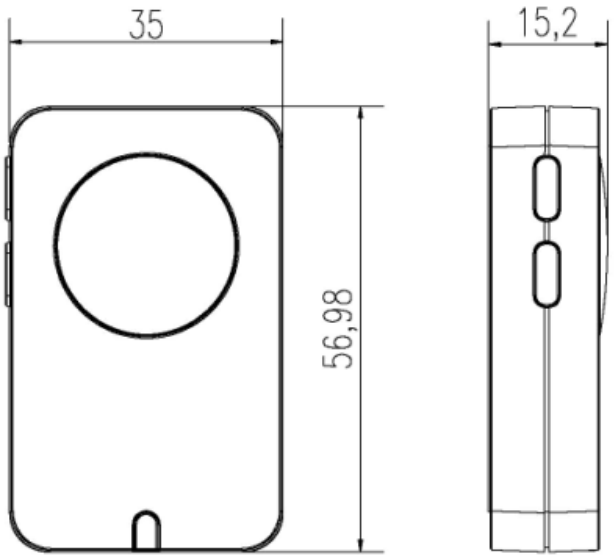
| | |
|---|---|
| Wake-up Current | 0.8mA - 8mA@3.3V |
| RF Receiving Current (max) | 11mA / 3V |
| RF Transmitting Current (max) | 120mA / 3V |

## 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； |
| Rx Sensitivity | -136dBm(LoRa，Spreading Factor=12，Bit Rate=293bps )<br>-121dBm(FSK,Frequency deviation=5kHz, Bit Rate=1.2kbps) |
| Antenna Type | Built-in antenna |
| Communication Range | Up to 10km, the actual transmission distance depends on the environment. |
| Data Transfer Rate | 0.3kbps～50kbps (LoRa)<br>1.2kbps～300kbps (FSK) |
| Modulation | LoRa / FSK |
| Available Frequency | EU863-870,US902-928,AU915-928,KR920-923,<br>AS923-1,AS923-2,AS923-3,IN865-867,CN470-510<br>Configured before shipment |

# Wireless Emergency Button

## Physical




| | |
|---|---|
| Main Body Dimension | 57mm x 35mm x 15.2mm |
| Weight | 45g |
| Operating Temperature | -20℃ ～ 55℃ |
| Environment Humidity Range | <90% RH (No condensation) |
| Storage Temperature | -40℃ ～ 85℃ |