Wireless Asset Sensor

Wireless Sensor Network Based on LoRa Technology

R313D
Data sheet

Introduction

R313D has a simple locating function that can detect the location of the device. It regularly reports RSSI and SNR information to the gateway for processing. It can locate the location of the device based on the reported RSSI and SNR information. It adopts SX1276 wireless communication module.

Main Characteristic

- 2 sections 3.0V CR2450 button batteries in parallel
- Compatible with LoRaWAN protocol
- Adopt SX1276 wireless communication module
- Compatible with LoRaWAN^{TM} 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
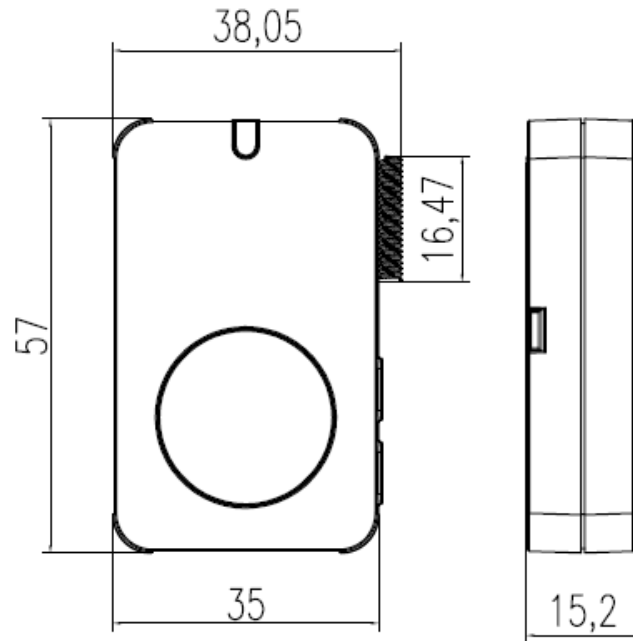- Low power consumption and long battery life

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

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

Application

- Smart home
- Locating function
- Other

Dimension

Electric

Input Power	2 x 3.0V CR2450 button batteries in parallel (The capacity of each CR2450 battery is 620mah.)
Work Voltage Range	DC 2. 4 V to 3.0V
Standby Current	16uA / 3.0V
Emission Current (max)	120mA / 3.0V
Receiving Current (max)	11mA/ 3.0V
Battery Measurement Accuracy	± 0.1V
Low Battery Alarm	2.4V

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	-136dBm (LoRa, Spreading Factor=12, Bit Rate = 293bps) -121dBm (FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	External antenna
Communication Distance	10 km (visible linear obstacle-free transmission distance, actual transmission distance depending on the environment)
Data Transfer Rate	0.3kbps ~ 50kbps (LoRa) 1.2kbps ~ 300kbps (FSK)
Modulation Method	LoRa/FSK (Note: choose one of them)
Supportable LoRaWAN Frequency	EU863-870,US902-928,AU915-928,KR920-923,AS923-1, AS923-2,AS923-3,IN865-867,CN470-510 (Note: The frequency band is optional and needs to be configured before shipment)

Physical

Dimension	38.05 mm x 57 mm x 15.2 mm
Weight	About 48.9 g
Environment Humidity	< 90 %RH (No condensation)
Operating Temperature	-20°C to 55 °C
Storage Temperature	-40°C to 85 °C