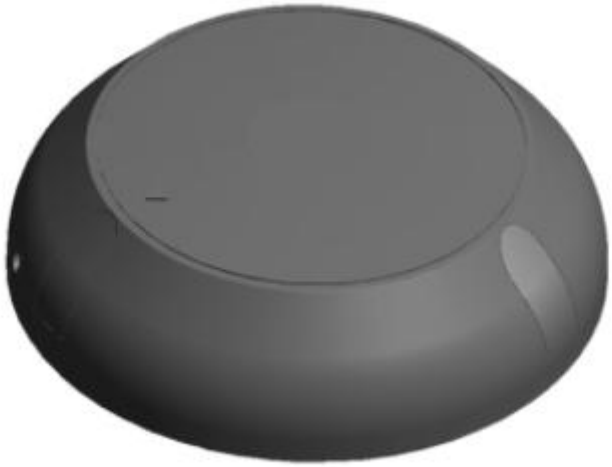

Product introduction

It is a surface-mounted type geomagnetic parking sensor with radar detecting based on standard LoRaWAN protocol to detect the status (occupied or empty) of parking space. When it detects that there is a car parked in or leaving the parking space, the status information of the parking space will be sent to a LoRa gateway, and gateway will transmit the information to LoRa network server, then LoRa network server will decode the LoRa data and interface with the smart parking platform to achieve real-time management of parking lots. Easy to install in ground, it is widely used in urban road-side parking space and other application scenarios.

The parking space detector based on LoRaWAN communication technology is a product specially developed by our company for parking space detection. It can be used in indoor underground parking lots, outdoor open parking lots, and roadside parking spaces.

It has the characteristics of accurate vehicle detection, low operating power consumption, high link budget, and no maintenance. When contacting this product for the first time, according to the instruction document, install the debugging tool through the Android mobile phone, and establish the BLE Bluetooth connection with the geomagnetic field to complete the activation operation.

Main features

- Vehicle detection technology based on micro-power geomagnetism and 24G microwave radar induction detection technology;
- Ultra-low power consumption, battery-powered, with a lifespan of more than 5 years;
- Compression-resistant and waterproof shell, can withstand pressures above 5T, and the overall sealing of the product meets the IP68 standard;
- LoRaWAN wireless communication technology, integrated LoRaWANTM 1.02 protocol stack;
- Easy to install and maintain, the battery can be replaced;
- Near-end Bluetooth OTA;
- Wide coverage radius and large capacity;
- Automatic compensation of environmental factors;
- Fault self-check, low voltage alarm;
- Arc discharge 12KV, contact discharge 3KV anti-static level;

Application Environment

Temperature: -35~+75℃ (working) / -40~+80℃ (storage)

Installation method

Surface mount;

Sensing method

Geomagnetic and 24G microwave radar induction fusion algorithm to resist high-voltage line/rail traffic interference;

Communication protocol

LoRaWAN CN470 / EU433 / EU868 / AS923 wireless data communication;

BLE4.0 wireless communication;

Power supply

3.6V 17Ah lithium battery can be used for 5 years (15 parking times/day);

Shell material

Compression and UV resistant plastic;

Dimensions

Ground-mounted stack, the upper diameter is 100mm, the lower diameter is 145mm, and the height is 38mm;

Data interface

- Standard LoRaWAN protocol supports direct connection to standard LoRaWAN NS server;
- The content of the data reported by the device: vehicle presence or absence, battery power, device temperature, signal strength, foreign object detection, event time;

Test Report

- Overall compression resistance 5T;
- IP68 protection grade;
- 99% detection accuracy;
- NCC certification;

Maintenance

- Hardware: circuit board, battery can be replaced;
- Software: Bluetooth near-end OTA upgrade;
- Installation configuration: You can use your mobile phone to activate, access the network, calibrate, and troubleshoot the device through the BLE channel;
- Warranty period is 3 years;
- 3-year extended warranty fee: 25% of the equipment fee is charged annually;

Specification

S/N	Specification	Comment	Value
1	LoRaWAN	Version	Compliant with LoRaWAN 1.0.2 standard protocol
2	Working frequency		CN470 / EU433 / EU868 / AS923
3	Detection interval		real-time detection
4	Response time	Occupy	1~30s can be configured
		Empty	1~30s can be configured
5	Temperature		-35~+75℃(working)/-40~+80℃(storage)
6	Battery type		3.6V 17AH lithium battery

7	Battery Life	related to parameter configuration	5 years per 15 parking per day
8	Detection method		Geomagnetic + 24G microwave radar induction
9	Detection distance	Configure as required	0.5~1m
10	Accuracy	99%	Rainy 99% Sunny 100%
11	Max.transmit power	20dBm@MAX	Set according to LoRaWAN regional requirements
12	Receive sensitivity		-136±1dBm(@SF12)
14	Shell material		Compression-resistant UV-resistant plastic
15	Protection		IP68
16	Firmware upgrade		Bluetooth near-end upgrade
17	Dimensions	Surface mounted	Diameter :Upper 100mm/Lower 140mm Height 40mm