



LW009-SM

Product Specification

Version 1.0

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1 Introduction

LW009-SM Wireless Surface-Mounting Vehicle Detector is a parking space status sensor that supports LoRaWAN long-distance wireless standard.

It integrates microwave radar and geomagnetic detection technology. It adopts advanced signal detection algorithm to accurately realize the functions of parking space occupancy detection and parking time statistics.

2 Product Feature

- High reliability: the accuracy of dual-mode detection is over 99%
- Long transmission distance (LoRaWAN): 500m~1000m
- Easy installation: built-in battery, no wiring required, easy to install, shorten installation time
- Easy maintenance
- Ultra-low power consumption, more than 5 service years under typical scenarios
- Bluetooth wireless upgrade and calibration
- In built Temperature and Humidity sensor to measure if the road is frozen
- Optional - External mounting cradle available for using glue to mounting the unit on the road to avoid drilling hole
- Optional - Reflective warning stickers to increase the visibility of the sensor to avoid any inattention accident happen

3 Application

- Industrial parks
- On road parking space
- Commercial parking slot
- Other public parking slot

4 Product Specification

Categories	Parameter	Value
LoRa Wireless Specification	LoRa Protocol	LoRaWAN V1.0.3 Class A
	Lora Frequency	EU868AS923
	Spreading Factor	125 kHz ~ 500 kHz
	Tx Power	Max 17dBm
	Sensitivity	-135 dBm (SF12, 125KHz)
	LoRa Communication Distance	Up to 500m ~1000m (Depends on actual environment)
Performance	Detection Accuracy	>99%


Specification	Detection Algorithm	Dual mode -Three-axis joint detection algorithm and Radar
	Installation Method	Surface-Mounting Type
	Upgrade Method	Remote Wireless upgrade
	State Monitor	Low voltage alarm, hardware error alarm, Strong magnetic disturbance alarm
	Power Supply	Built-in 3.6V Lithium battery, 20Ah
	Bluetooth switch	Magnetic trigger
	Life Duration	5 years under typical scenarios
Physical Specification	Protection level	IP68
	Dimension	Φ: 202mm, H: 30mm
	Weight	600g
	Force Resistance	10 tons
Application Specification	Power Switch	Wake-up via Bluetooth
	Operation Temperature/ Storage Temperature	-40℃ ~ 85℃
	Operation Humidity	10%~90%
	Operating Environment Requirement	No ferromagnetic materials, No strong magnetic field nearby; No metal shield covers the detector

Note: Typical scenario means the device report information every 12 hours, there are 5 times for vehicles come in and go out to a parking space a day.

5 Revision History

Version	Description	Editor	Date
1.0	Initial version	Allen	2022-5-29

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