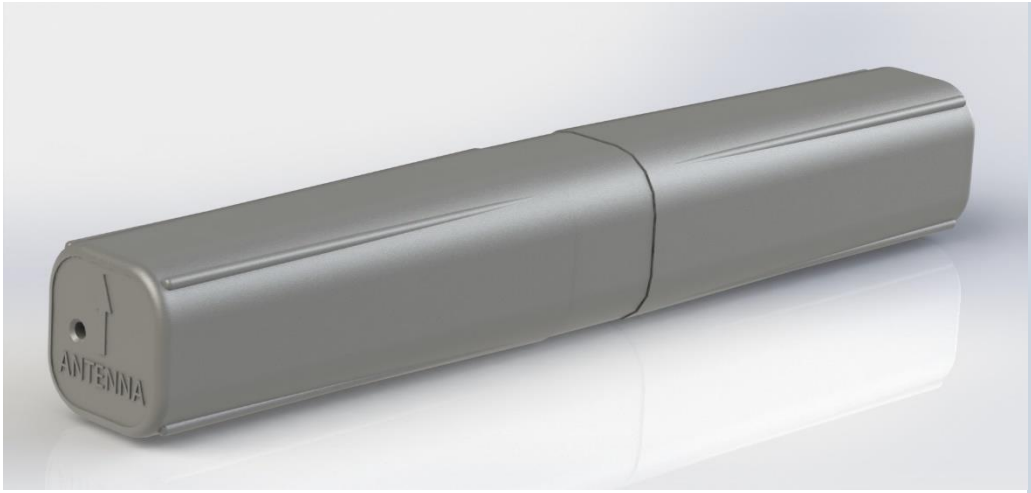
Narrow Band Parking Sensor

Smart product for cities of tomorrow



Features

- Wireless communication via NBIoT Cellular Network
- Reliable and accurate parking occupancy detection
- Real-time parking spot status
- Reliable detection in all weather conditions
- Painless deployment process
- Easy integration with existing infrastructure

Product description

Narrow Band Parking Sensor (NBPS) is a fully autonomous wireless parking sensor. Its compact form factor and ease of deployment make it a versatile solution for the cities of tomorrow. The patented dual magnetometer technology enables reliable and accurate vehicle detection. Utilizing a Narrow Band Cellular network, the sensor is capable of transmitting parking data directly to the Internet, without a need for any gateways or hubs. That, in turn, lowers the total cost of ownership. An onboard battery, backed by intelligent power management system, guarantees a long operational lifetime, with minimal maintenance. Integrated Bluetooth Low Energy communication module makes the system easily expandable and serviceable.

Detection

As with most solutions, each parking spot is equipped with a sensor tasked with detecting vehicles in that spot. Traditionally, magnetic-based parking sensors relied on disturbances in the natural magnetic field caused by parked vehicles. However, some vehicles create stronger disturbances, which can cause false detections on nearby parking spots. To cope with that issue, NBPS uses patented dual magnetometer measurement system which eliminates a majority of false positive or false negative detections. Such decrease in number of false detections yields up to 98% detection rate, regardless of any possible obstructions, such as dirt, snow or debris

Application

- On-street and off-street parking spots
- Counting vehicles on ramps
- Navigation to the nearest available parking spot

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Deployment

Sensors are delivered in an inactive state (deep sleep mode), thus conserving battery life during transport and storage. The sensors are activated and configured using an Android device via a Bluetooth connection. Both flush

Once active, the sensor is capable of wirelessly communicating with a server via the NBIoT cellular network on various bands. Each sensor comes pre-installed with a SIM card supporting local carrier.

Smart parking Cloud

Smart parking is a complete parking management solution that integrates multiple technologies to deliver the most advanced parking system available today. There's no need for additional software installation, as the interface is accessed via a web browser, such as Google Chrome or Mozilla Firefox. All sensors, including their real-time occupancy status, are visualized within the web interface using Google maps.

Technical specifications

Connectivity	**Narrow-Band IoT**
NB-IoT band (depending on HW configuration)	Band 8 or Band 20
Detection method	Differential magnetic
Bluetooth low energy capability	Supports data exchange with external device via BLE
Power supply	Built in Li-SOCl2 lithium battery
Voltage	3,6 V
Capacity	7,2 Ah
Mounting	Into the floor/ground, flush with the road surface
Snow plough resistant	Yes
Detection accuracy rate	98%
Antenna	Omnidirectional
Dimensions	ф 35 mm x 200 mm
Weight	270 grams
Ingress protection	IP67
Color	Black
Operating temperature	-20….+75℃
Storage temperature	-40….+85℃
SIM card*	3FF Micro SIM

*SIM cards should be delivered before production by NB-IoT network provider