

MAGSENSE NBPS (NarrowBand Parking Sensor)

Wireless parking sensor

Features

- Wireless communication via NBloT 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

**with 15 – 30 parking sessions daily, also depends on NB-loT coverage*

Product description

NarrowBand 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 NarrowBand 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



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

MagSense Cloud

MagSense Cloud 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.

Application

- On-street and off-street parking spot
- Navigation to the nearest available parking spot

| Technical specification | NBPS – G | NBPS4B – G | NBPS6B – G |
|--|--|------------|------------|
| Band | 1, 3, 4, 5, 8, 20, 28 (only one can be selected at the time) | | |
| Detection method | Magnetic, dual AMR detection | | |
| Bluetooth low energy capability | Supports data exchange with external device with BLE with range up to 10 m | | |
| Power supply | Build in Hybrid Primary Li-SOCl ₂ battery | | |
| Voltage [V] | 3,6 | | |
| Capacity [Ah] | 7,2 | 14,4 | 21,6 |
| Protection | 1.75 A Fuse | | |
| Case material | PA 66 | | |
| Flammability class | UL 94 V-0 | | |
| Mounting | Flush with road surface | | |
| Snow plough resistant | Yes | | |
| Detection accuracy rate ¹⁾²⁾ | 98% | | |
| Antenna | Omnidirectional | | |
| Enclosure dimensions in mm | 30.5 x 30.5 x 198 | 196 x 43 | 196 x 43 |
| Weight (g) | 170 | 190 | 235 |
| Ingress protection | IP68 | | |
| Color | Grey | | |
| Operating temperature [°C] | -20...+75 | | |
| Storage temperature [°C] | -40...+85 | | |
| SIM card ³⁾ | 3FF Micro SIM | | |

¹⁾Under normal usage and normal circumstances. Highly depends of NB IoT signal and precise installation.

²⁾Detection performance proven in field-test with sample of 2000 sensors with different car types in real parking environments.

³⁾Customer should deliver SIM cards to manufacturer before production from NB IoT Network provider.