SENSIT IR Flush Mount NB-IoT

wireless smart parking sensor

Key features:

- ✓ dual detection technology (infrared and magnetic)
- ✓ flush mount installation (snowplough resistant*)
- ✓ real-time communication via NB-IoT telecom network
- ✓ tool for easy mounting included
- ✓ advanced monitoring with SENSIT Interface Software
- ✓ easy data integration (API) with third party applications

The SENSIT IR Flush Mount NB-IoT sensor is an advanced parking sensor that detects in real-time whether or not a single parking bay is occupied and how long it has been occupied. The sensor is designed to operate in parking projects in Smart Cities and Intelligent Transportation Systems (ITS) environments. Real-time information on the usage of parking spaces can be used to reduce search traffic, optimize parking utilization, lower emissions (CO_2 and fine dust) and improve parking revenues.

The SENSIT NB-IoT sensor uses Nedap dual-detection technology (infrared and earth magnetic field) to ensure reliable and accurate vehicle detection. The robust and compact design of the SENSIT NB-IoT sensor enables flush-mount installation, making the sensor vandal proof, snowplough* and tripping hazard resistant. The (standard included) mounting tool offers easy installation of the sensor. The SENSIT NB-IoT sensors require a low level of maintenance. With an expected battery lifetime of up to 10 years (depending on the application type), the in-ground SENSIT sensors have proven to be a reliable and durable parking detection solution.

Nedap's SENSIT allows easy integration with third party applications. Typical use cases include on-street parking guidance and effective monitoring of loading and unloading, short-stay zones, disabled and EV-charging parking bays.

Highly accurate detection

The weather proof SENSIT IR Flush Mount NB-IoT features earth magnetic field and infrared detection. This dual detection technology combined with sophisticated algorithms ensures highly accurate vehicle detection.

This makes the sensor fit for operation in urban environments and under extreme weather circumstances.

Fast and reliable communication

A unique feature of the sensor is its capability to communicate wireless via a Telecom provided licensed NB-IoT network. Using this fast and reliable network ensures real-time parking data is sent to the cloud hosted server (SENSIT Interface Software).

SENSIT Interface Software

Using the SENSIT Interface Software API, occupancy data can be easily integrated into third party parking guidance systems or smartphone apps. In addition, Key Performance Indicators (KPI) of the Telecom's NB-IoT network is collected in the SENSIT Interface Software. These KPI's are used to analyze and optimize communication sequences. The SENSIT Interface Software (SIS) forms the basis for additional services and functions, such as data analytics, planning and management of e.g. loading / unloading, truck and disabled parking bays.

SENSIT platform

Nedap's SENSIT platform is specifically designed for:

- Guidance: guiding cars, busses and trucks to available parking bays fast and efficiently.
- Enforcement: providing real-time data and alerts to monitor the (ab)use of single parking bays.

Having a clear understanding of the Return On Investment (ROI), city authorities and parking operators can help decision making on the development of parking services.

Technical information	SENSIT IR Flush Mount NB-IoT
Part number	9229300 SENSIT IR Flush Mount NB-IoT
Dimensions	Ø 78 mm (3,07 in) x 72 mm (2,83 in)
Mounting dimensions	Ø 78 mm (3,07 in) x 72 mm (2,83 in) - fully flushed into the floor
Color	Black
Weight	350 gram (12.35 oz)
Protection class	IP68, completely sealed Housing
Material	Polyethylene (PE)
Operating temperature	-40 ... +85°C (-40...+185°F)
Storage temperature	-40 ... +85°C (-40...+185°F)
Relative humidity	100% relative humidity
Operating frequency	LTE band 8 & 20 (NB-IoT)
SIM card	Industrial SIM card (nano-SIM) or chip-SIM (MFF2 type)
Battery	Built in lithium battery
Expected battery life	Up to 10 years (under normal usage and normal circumstances / strongly depending on the application type and the coverage quality of the mobile telecom network)
Snowplough resistant	Yes*
Load resistance	Heavy traffic
Detection	Magnetic and infrared
Expected detection accuracy	98% (both IR and magnetic detection), 95% (magnetic detection only) under normal usage and normal circumstances
Detection height	0 - 90 cm (0 - 35.5 in)
Standards	CE - Radio equipment directive 2014/53/EU
*Disclaimer	Please note that improperly adjusted snow plows or other alike vehicles will cause critical or terminal damage to roadways, parking surfaces and sensors. When electronic devices like SENSIT sensors are installed please be extra cautious. Every effort should be made to properly adjust the snow plow blade to appropriate settings and heights so as not to cause damage to these items. Snow plows with plastic or rubber cutting edge scrapes are recommended for use in these installations. The product warranty on SENSIT sensors voids if scraping damage is visible on the SENSIT sensor surface.
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