

OUTDOOR PARKING GUIDANCE SYSTEM

Wireless Waterproof Sensor Guidance System for
Outdoor Parking



ABOUT PARKOMATE

Parkomate – your one-stop shop for all parking needs. Since 2019, we've transformed the parking experience for businesses across India by providing advanced parking infrastructure and automation solutions.

Proudly manufactured in India, our expertise in parking guidance systems sets us apart. We are committed to quality, excellence, and innovation, ensuring each solution we provide enhances usability and customer satisfaction.



25+

PROJECT COMPLETED
PAN INDIA

10K+

PARKING PLACES
COVERED

25+

MALLS, OFFICES,
GOVERNMENT PAY &
PARKS WORKED WITH

15+

HAPPY CLIENTS

WHAT IS OUTDOOR PARKING GUIDANCE SYSTEM ?

An outdoor parking guidance system helps drivers find available parking spots in open areas. It uses sensors to detect vehicle presence and displays real-time occupancy data on digital signboards. This reduces search time, improves traffic flow, and enhances space utilization for smoother and more efficient parking management.



**REDUCED TRAFFIC
CONGESTION**



**IMPROVED PARKING
TURNOVER**



**DATA-DRIVEN
MANAGEMENT**



APPLICATIONS



Shopping Malls



Corporate Parks



Public Parking



Airports



Stations

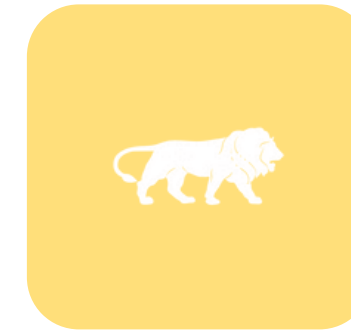
BENEFITS



EASY
REPLACEMENT



WATERPROOF



MADE IN INDIA



5 YEARS
LIFECYCLE



INCREASED
SAFETY

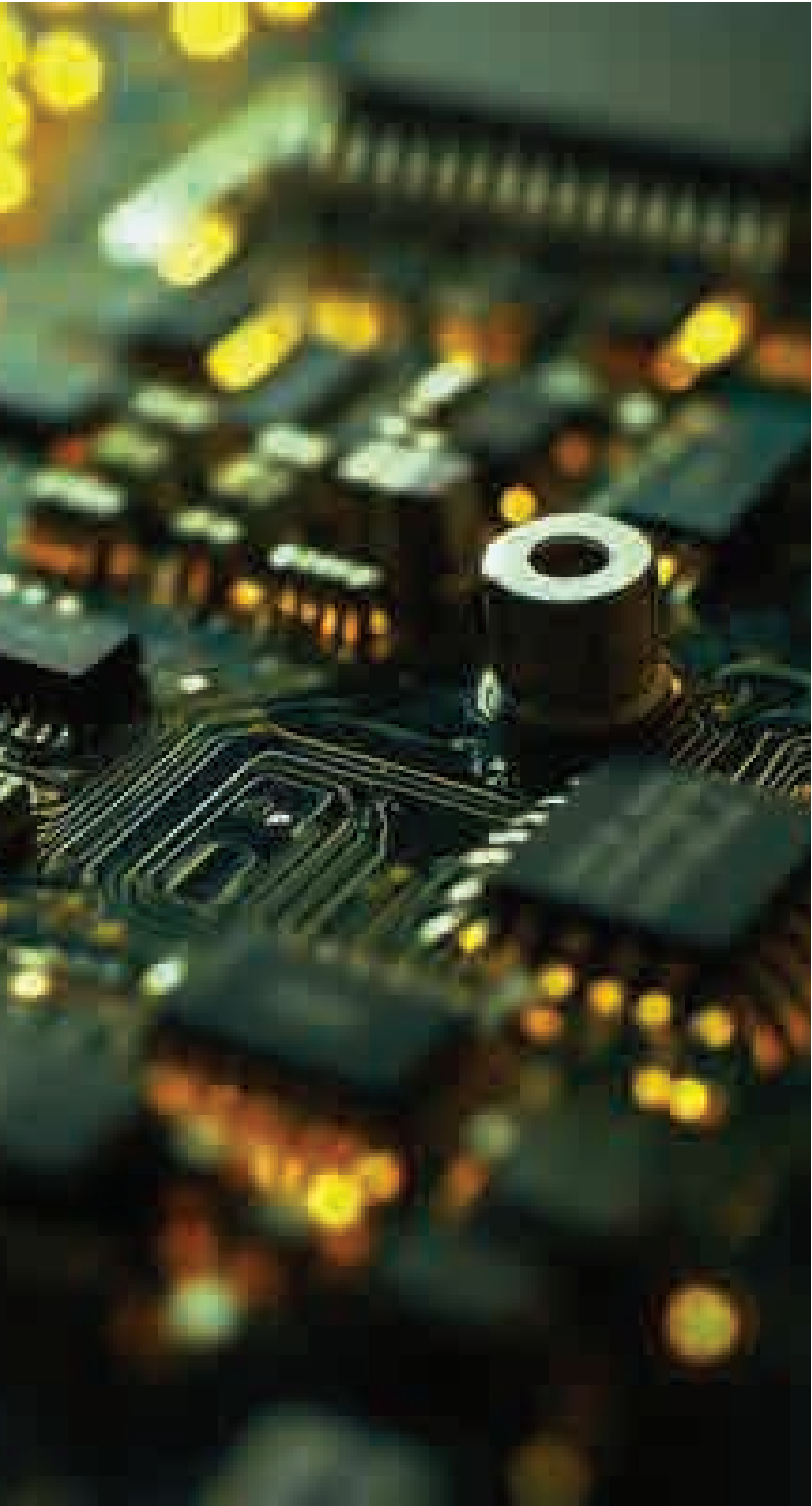


ULTRA-LOW
POWER CONSUMPTION

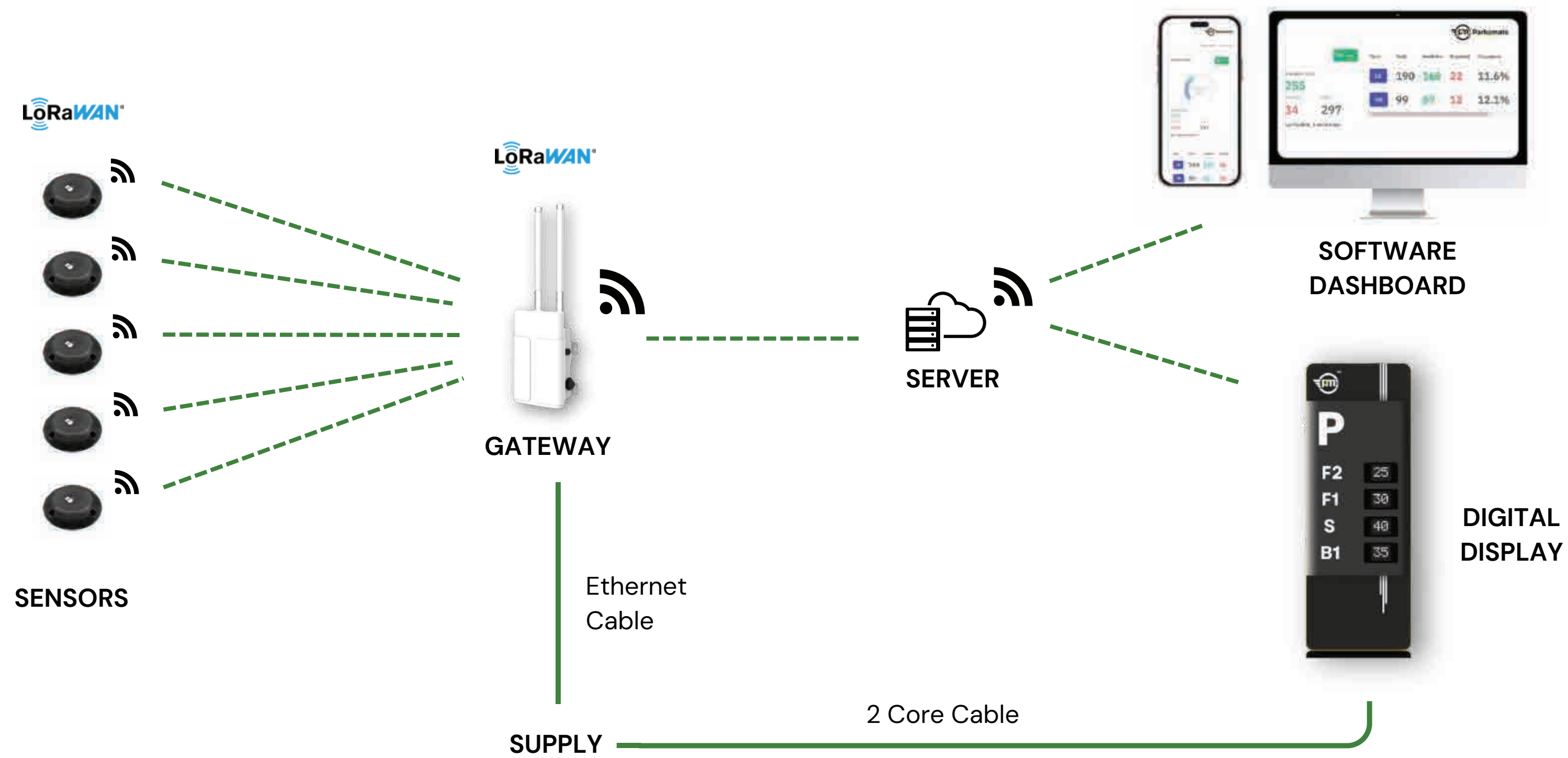
SYSTEM ARCHITECTURE

System Components

COMPONENT IMAGE	COMPONENT NAME	DESCRIPTION
	Outdoor Guidance Sensors	Detect vehicle presence in each parking bay and send occupancy data to the Gateway.
	Lorawan Gateway Device	Collects sensor data and transmits it to the server over a long-range wireless network.
	Server	Collects data from the Gateway Device and sends it to the Software Dashboard and Display Units.
	Software Dashboard	Provides operators with a live map of bay-by-bay occupancy, analytics, and system health.
	Digital Display Unit	Shows real-time occupancy data and directional guidance, helping drivers locate free spaces quickly.



Architectural Diagram



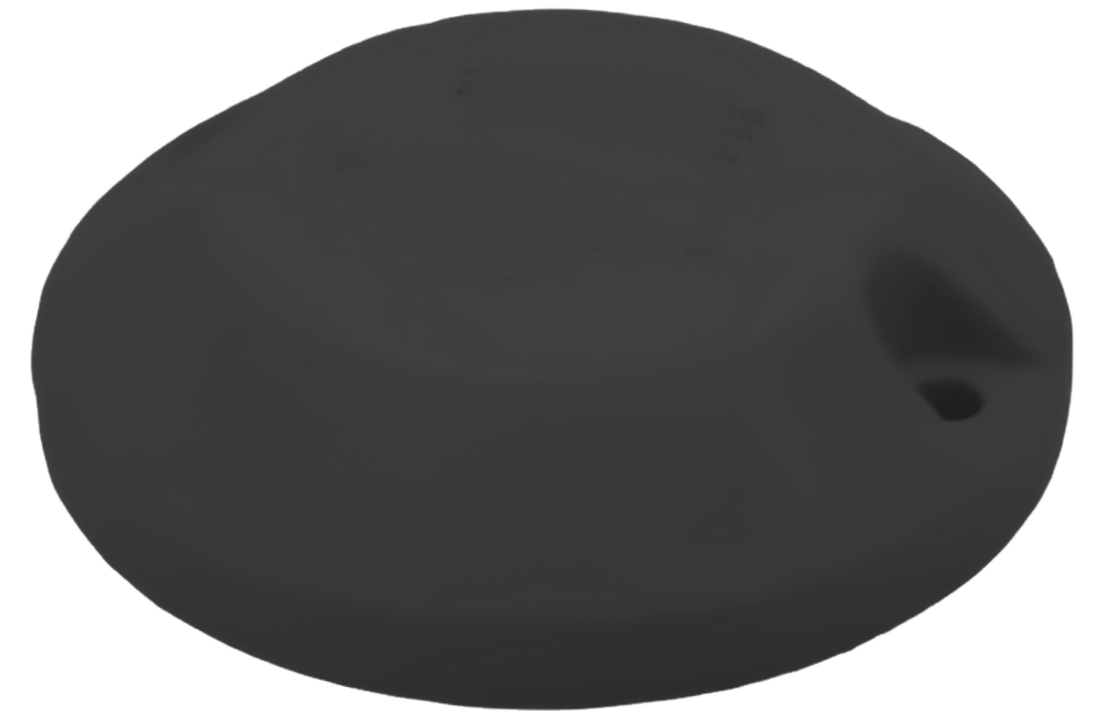
TECHNICAL SPECIFICATIONS

Space Specific Outdoor Parking Guidance Sensors

The SSOPGS is a surface-mounted wireless vehicle detector developed for outdoor parking space monitoring. It uses geomagnetic technology using a dual-mode algorithm to achieve over 99% detection accuracy. The sensor operates on the LoRaWAN protocol, offering a long-range, low-power communication solution ideal for smart parking infrastructure.

Key Features

- Dual Detection: Geomagnetic Sensing (>99%)
- Long-Range LoRaWAN Communication: Up to 1km.
- Battery-Powered: Built-in lithium battery with 5+ year service life
- Waterproof Design: IP68-rated enclosure for outdoor durability
- Maintenance-Friendly: Supports wireless upgrades and Bluetooth calibration
- Heavy-Duty Build: Load resistance up to 10 tons



Technical Data Sheets

Parameter	Specification
Wireless Communication	
Protocol	LoRaWAN v1.0.3 (Class A)
Frequency Band	EU868 / IN865 / US915
Spreading Factor	125–500 kHz
Transmit Power	Up to 22 dBm
Receiver Sensitivity	–135 dBm (SF12, 125 kHz)
Communication Range	500m to 1000m (environment dependent)
Detection Performance	
Detection Algorithm	3-axis Joint-detection
Detection Accuracy	>99%
Detection Time	16 – 20 secs
Installation Method	Surface-mounted
Wake-up Mechanism	Bluetooth (magnetic trigger)
Upgrade Method	Wireless (OTA via Bluetooth)

Parameter	Specification
Power & Battery	
Battery Type	3.6V Lithium, 20Ah
Battery Life	>5 years (typical use case)
Monitoring Features	Low voltage, hardware error, magnetic disturbance alerts
Physical Characteristics	
Dimensions	Diameter: 202 mm, Height: 30 mm
Weight	600 g
Protection Rating	IP68
Load Resistance	Up to 10 tons
Mounting Options	Screw mount or adhesive cradle
Environmental	
Operating Temperature	–40°C to +85°C
Storage Temperature	–40°C to +85°C
Operating Humidity	10% – 90% RH

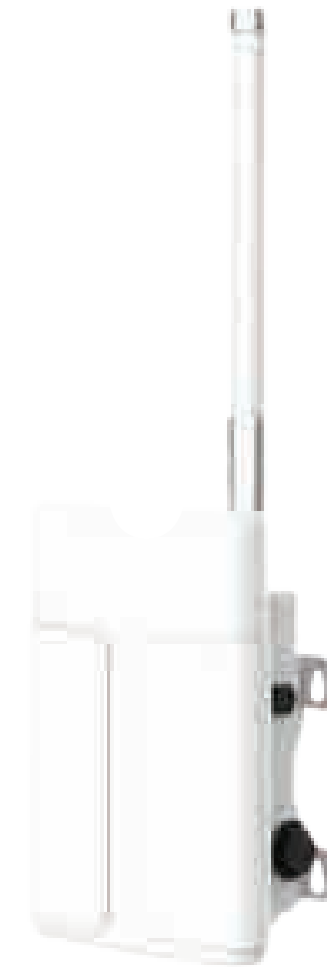


LoraWan Gateway Device

The Gateway Device is a compact, single-channel LoRaWAN gateway ideal for smart parking and indoor IoT setups. With a plug-in design, external antenna, and support for multiple LoRaWAN bands, it enables quick deployment and stable wireless communication between field sensors and cloud platforms in small to medium-scale networks.

Key Features

- Compact, plug-in form factor for quick and simple installation
- Single-channel LoRaWAN communication suitable for low-density deployments
- Supports wide range of regional LoRaWAN frequencies (EU868, IN865, US915, etc.)
- Dual wireless interface: LoRa + Wi-Fi (2.4 GHz)
- Operating range up to 1 km in urban open environments
- Ideal for smart offices, hospitals, schools, warehouses, and parking systems



Technical Data Sheets

Parameter	Specification
Wireless Communication	
LoRaWAN Channels	Single Channel
Supported Bands	EU868 / IN865 / US915
LoRa TX Power	Up to 21 dBm
LoRa Protocol	Semtech UDP Packet Forwarder
Wi-Fi Support	2.4 GHz
Max LoRa Range	> 1 km
Hardware & Antenna	
Chipsets	Semtech SX1262 (LoRa), ESP32 (MCU)
Antenna	External 1.6 dBi (LoRa)
Power Supply	Ethernet connection with power supply source

Parameter	Specification
Environmental	
Operating Temperature	−40°C to +85°C
Operating Humidity	10% – 90% RH (non-condensing)
Physical	
Dimensions	61 × 35 × 43.4 mm (excluding antenna)
Mounting	Wall & pole brackets; polycarbonate housing
Wake-up Mechanism	
Bluetooth (magnetic trigger)	
Power Consumption	
Draw	~1.5 W idle / ~3 W max
PoE	802.3af/at (optional)



Digital Display Unit

The Digital Display Unit is an LED-based outdoor signage system used to communicate real-time parking space availability to drivers. Installed at entry points or decision-making junctions, the display fetches live occupancy data from the server and provides clear, visible guidance. Designed for outdoor visibility, the unit is waterproof, customizable, and supports both numeric and directional indicators.

Key Features

- Real-time display of available parking slots by zone or level
- High-brightness LED display with clear visibility in daylight and low light
- Weather-resistant enclosure (IP65 or higher) for outdoor installations
- Supports directional arrows, zone names, and multi-line text formats
- Data updates via Wi-Fi.



Technical Data Sheets

Parameter	Specification
Physical Characteristics	
LED Modules	P5 / P2.5 (RGB)
Dimensions	70cm x 25cm x 10cm (customizable)
Shell material	MS (Powder coated)
Mounting type	Standing / Hanging / Wall Mount (customizable)
Protection Rating	IP Rating IP65
Environmental	
Operating temperature	5 to 55°C
Humidity	20-80 RH non-condensing
Vibration	10 to 60 Hz 2.5G 20min/cycle for 60min on all 3 axis

Parameter	Specification
Input	
Operating voltage	230V AC ± 5%
Operating current	Upto 2A
Operating power	Upto 20W
Output	
Data signal from server	Displays car counts
Communication protocol	HTTPS (Ethernet Connection / WiFi)
Brightness Level	Adjustable

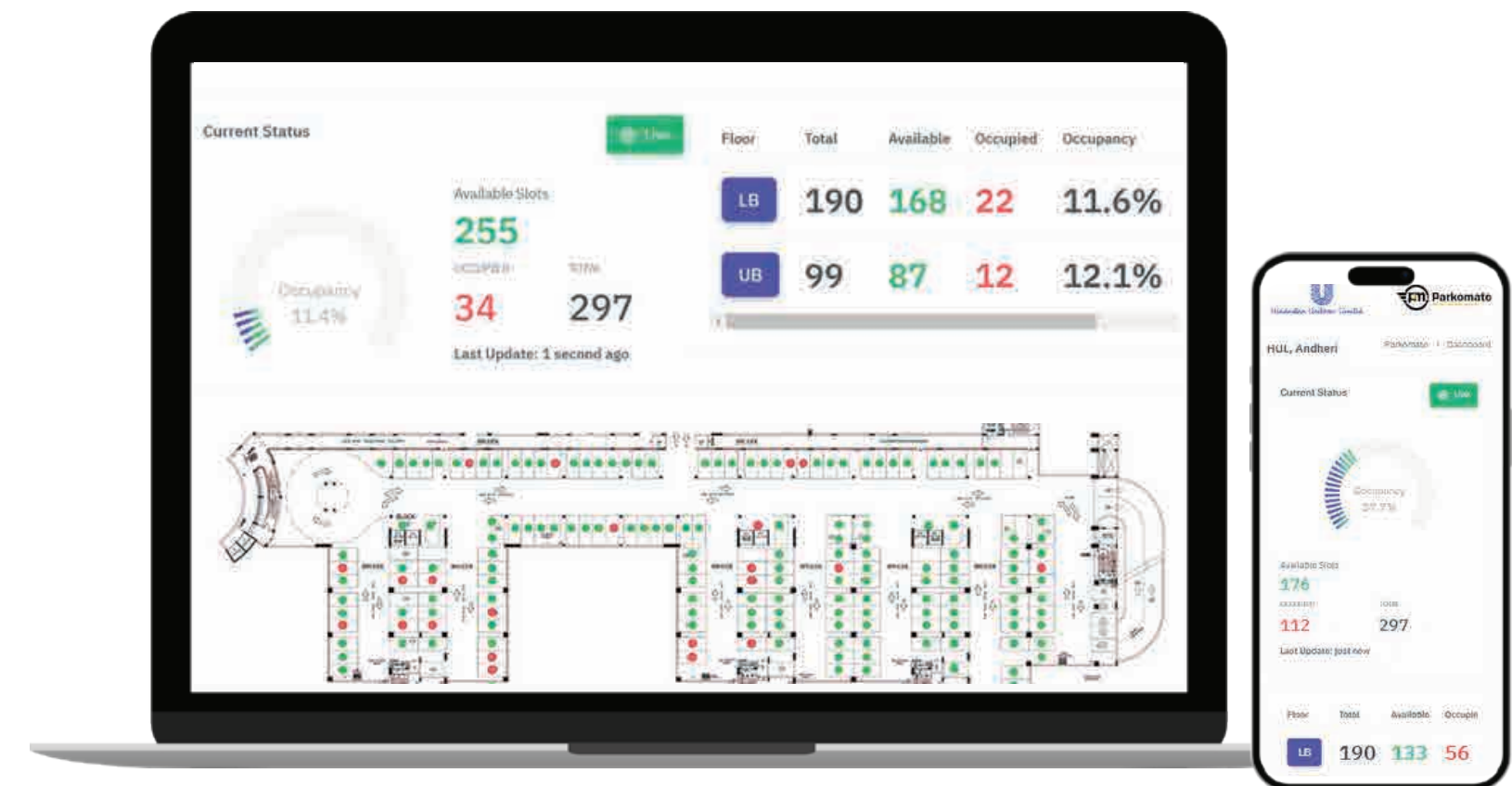


SOFTWARE DASHBOARD

The Software Dashboard is a cloud-connected platform designed to monitor, manage, and analyze real-time parking data collected from the server. It provides administrators with a visual overview of occupancy status, alerts, reports, and system health. The dashboard is web-based, accessible via secure login.

Key Features

- Real-time map view of parking occupancy
- Alert notifications for system faults and status changes
- Historical data analysis for usage trends and optimization
- Exportable reports
- Mobile and desktop compatible (responsive UI)



THANK YOU FOR
YOUR TIME

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