Product Catalogue & Technical Specifications

SIMACTRICALS

Empowering Tomorrow's Mobility:
Wireless Charging Solutions

SIMACTRICALS

ABOUT US

Simactricals is a cutting-edge technology company at the forefront of innovation in wireless charging for electric vehicles, unmanned aerial vehicles, autonomous bots, and high-voltage products.

Simactricals was established as a Private Limited entity in October of 2020 and was incubated at SIIC, Indian Institute of Technology, Kanpur in October of 2021. Our headquarters and base of operations is currently in Kanpur.

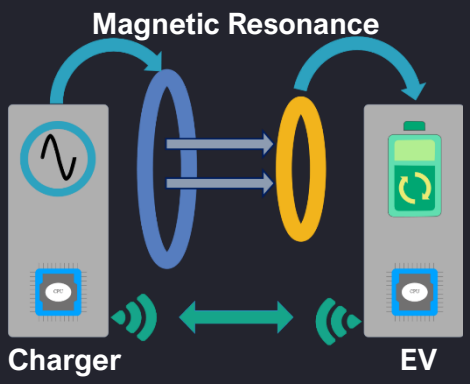
At Simactricals, we are committed to deliver advanced and sustainable solutions that address industries' complex challenges. Our experienced engineers and researchers leverage the latest technologies to create safe, reliable, and efficient products while reducing the carbon footprint and promoting sustainable development.

Our portfolio covers a range of innovative solutions, including wireless chargers for electric vehicles, which provide a convenient and seamless charging experience, and unmanned aerial vehicles (UAVs), which offer a wide range of applications across industries such as agriculture, security, and logistics.

Technology

Inductive Wireless Charging Systems

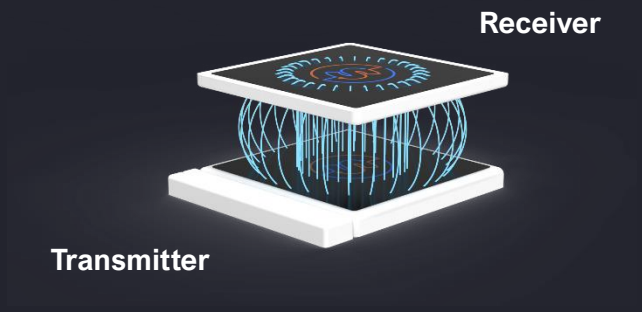
Inductive systems are a near-field, non-radiative WCS in which the distance between the transmitter and the receiver is considerably lesser than the source's electromagnetic wavelength, and the transmitter element is also much smaller than the source's electromagnetic wavelength. This works based on the principles of Ampere's law and Faraday's law.



Inductive Charging Schematic

Product Overview

This state-of-the-art wireless charging system designed to provide efficient and convenient power replenishment for battery electric vehicles, UAVs and autonomous bots in various environments. The system is designed to ensure seamless energy transfer without the need for physical connections.



Transmitter - Receiver Cascade Arrangement

The charging system comes in two distinct parts, the transmitter pad that is placed on the ground at a designated charging area, plugged into the power supply and the receiver pad that is fitted on the on the vehicle. When the rover needs to charge its battery, it can navigate and park itself above the transmitter pad and after the automated initial handshake protocol the battery is charged without the need to plug in the charger.

Value Propositions

Affordable

Our wireless charging solution is designed to be cost-effective, ensuring accessibility for all users without compromising on quality or performance.

Modular & Scalable

With a modular design, our wireless charger can be easily scaled up or down to meet the specific needs for different applications, making it versatile and adaptable to a wide range of needs.

Easy Park & Charge

Featuring advanced automation technology, our wireless charger enables effortless parking and charging without the need for human intervention, streamlining the charging process for consumers.

Alignment Agnostic

Our wireless charger is alignment agnostic, meaning that it can charge vehicles efficiently regardless of their positioning or alignment on the charging pad, providing convenience and flexibility to consumers.

Efficient Charging

Utilizing cutting-edge charging technology, our wireless charger delivers efficient and rapid charging to ensure minimal downtime for consumers, maximizing productivity and convenience.

Durable & Solid-state Technology

Built to last, our wireless charger incorporates solid-state technology for enhanced durability and reliability, offering a robust charging solution that withstands the rigors of daily use with minimal maintenance requirements.

Simactricals Turtle

Power up to

3.3 kW

Air Gap up to

20 cm

Charger for

2 wheelers
Autonomous Bots
& UAVs

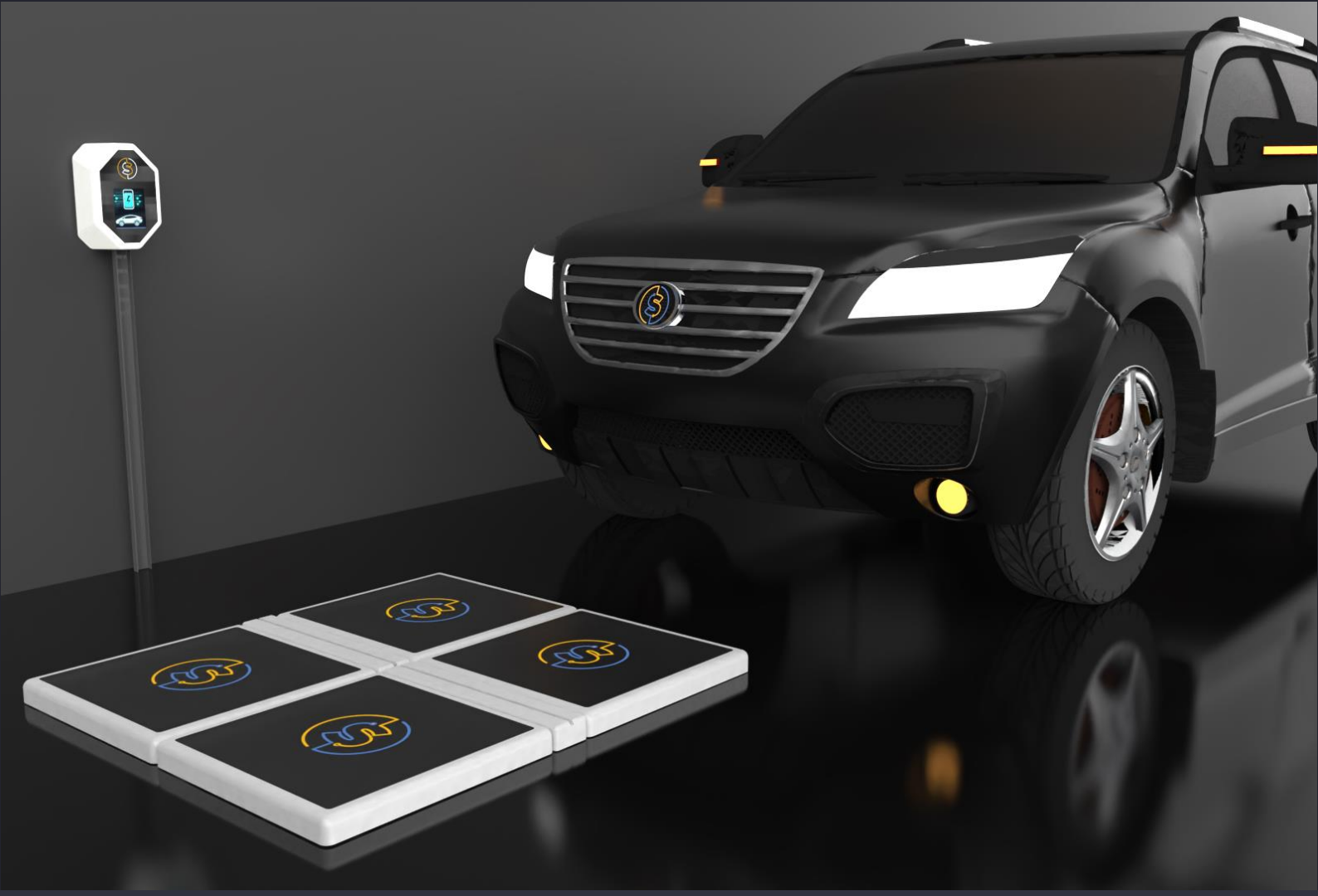
- Charging up to 16A @ 230V, single phase.
- Maximum output of 3.6 kW.
- One 16A 3 pin socket.
- Wall mount box with display.
- IP65 protection for indoor and outdoor application.

Simactricals Rabbit

Up to 4 modules

Power up to	Air Gap up to	Charger for
13.2 kW	**25 cm**	**3 wheelers & MDVs**

- Charging up to 20A @ 415V, three phase.
- Maximum output of 14.4 kW (3.6 kW/module).
- One 32A 5 pin industrial socket.
- Wall mount box with display.
- IP65 protection for indoor and outdoor application.



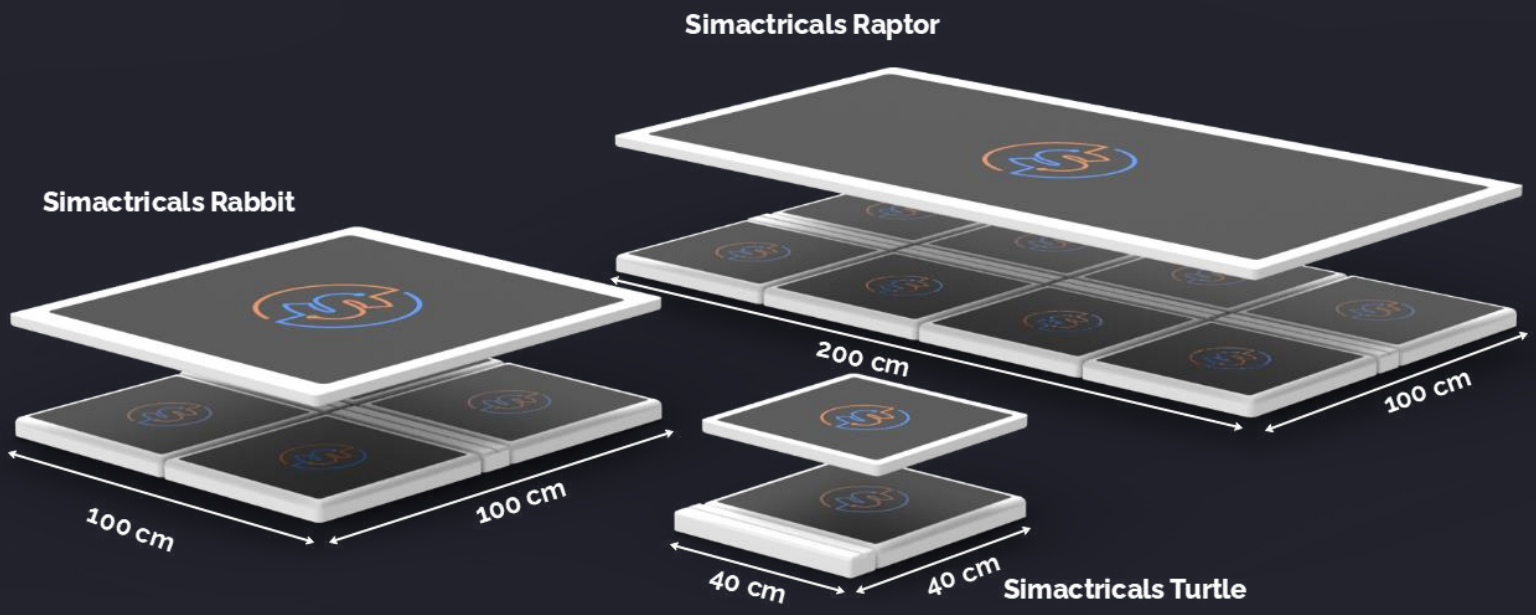
Simactricals Raptor

Up to 8 modules

Power up to	Air Gap up to	Charger for
26.4 kW	**30 cm**	**4 wheelers & HDVs**

- Charging up to 44A @ 415V, three phase.
- Maximum output of 28.8 kW (3.6 kW/module).
- Wall mount box with display.
- IP65 protection for indoor and outdoor application.

Charger Dimensions



Features

Efficient Power Transfer

Our wireless charging systems for Electric Vehicles (EVs) ensure rapid and efficient power transfer, minimizing energy loss during charging cycles. With advanced resonant technology, it achieves high level of efficiency, optimizing charging times and overall energy consumption.

Universal Compatibility

Designed to accommodate various EV models, our wireless charging systems boast universal compatibility, supporting a wide range of battery capacities and charging requirements. Its flexible design allows seamless integration with different vehicle platforms, offering convenience and versatility to EV owners.

Smart Safety Features

Equipped with intelligent safety features, our wireless charging systems prioritizes user safety throughout the charging process. From temperature monitoring to foreign object detection, it ensures reliable and secure charging operations, safeguarding both the vehicle and charging infrastructure against potential hazards.

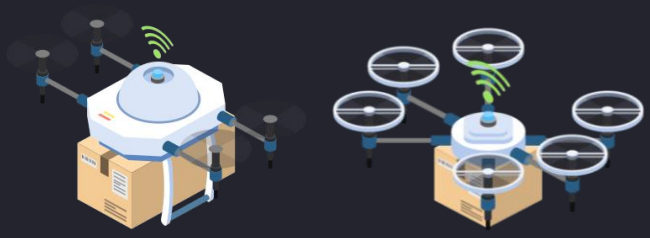
Seamless Integration with Mobile Devices

Our wireless charging system offers intuitive phone and app integration, allowing users to monitor and manage charging sessions effortlessly from their mobile devices. With real-time notifications, scheduling options, and remote access capabilities, EV owners can conveniently optimize their charging experience while on the go, enhancing overall convenience and control.

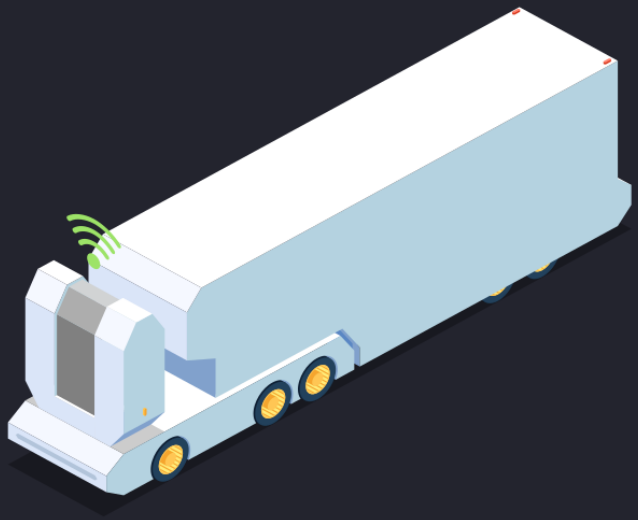
Other Applications

Wireless Charging of Autonomous Bots

Wireless Charging of Drone & UAVs



Wireless Charging of Buses, Truck & other HDVs



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