Inductive Charging System
Inductive Charging System

This new inductive charging solution consists of a primary and secondary coil system. Each coil system comprises several coils which are separately available for the optimal charging constellation.

High Position Tolerance

- Nine coils in two layers fit into a standardized license plate
- Orthogonal alignment between primary and secondary coil system
- Five primary (stationary) and nine secondary (mobile) coils lead to an effective charging area of $0.9 \times 0.5 \text{ m}^2$

Characteristic coupling factor map

- Comparatively high coupling factors within the charging area

Case I

- Primary coil system
- First coil layer
- Second coil layer

Case II

- Secondary coil system

Technical Data

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal power</td>
<td>3 kW</td>
</tr>
<tr>
<td>Efficiency</td>
<td>93%</td>
</tr>
<tr>
<td>Operating frequency</td>
<td>$\leq 150\text{kHz}$</td>
</tr>
</tbody>
</table>

System Advantages

- High transfer efficiency and small stray fields through minimal air gap
- High interoperability through orthogonal alignment
- High positioning tolerance
- Lightweight pick-up
- Coils fit in conventional and standardized license plate dimension
- Minimal package volume compared to underbody systems
- No moving parts
- Bidirectional operation mode
- Further efficiency improvement through wide band gap devices

Contact Us!

The Fraunhofer IISB is your research and development partner for inductive power transfer.

We develop and realize complete inductive power transfer systems. From the FEM-Simulation, over power electronics analysis/simulation and mechanical integration to the realization of complete demonstrators.