



TRANSPORTATION

APPLICATION EXAMPLE

## System solution for energy storage in the automotive area

In response to a request from an automaker, HEITEC exclusively developed and manufactured a mobile charging system for a plug-in hybrid vehicle. The project involved an intelligent system for charging electronics that generates the DC needed to charge a traction battery using a standard domestic 230V AC connection. The charging system is packed in a handy designer casing.

This lets the plug-in hybrid be charged using any domestic power outlet without difficulty. The mobile design means the charging box can be carried in the vehicle if needed, so the battery used in the electric drive system can be charged anywhere. On the other side for short distance the charging box can be left at home so its weight can be saved on the vehicle itself, reducing consumption and extending the vehicle's range.

HEITEC developed both the electronics and the casing technology for this challenging application. Implementing it involved observing an extensive list of these requirements.

Strict requirements of the automotive industry also impose stringent demands in terms of reliability, sturdiness and safety.

To ensure reliable charging management, a high-performance communications system had to be included alongside the power electronics. And to guarantee operational safety, isolation quality must be constantly checked and the system monitored to ensure no fault currents develop.

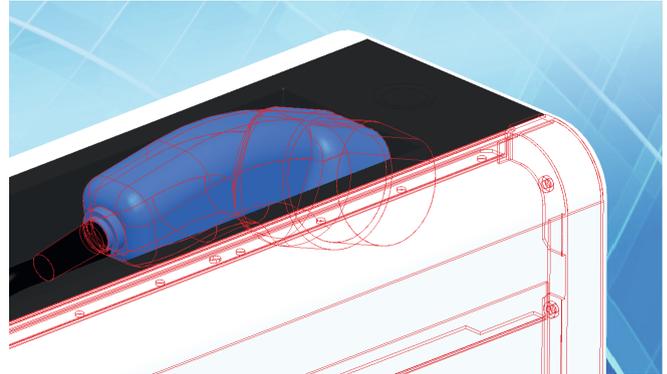
There were many different demands on the casing technology: the chassis had to be not only compact, sturdy and protected against the weather, but also had to offer enough space for all necessary components, while still complying with the customer's corporate design.

The project was implemented in close consultation with the customer at a number of different HEITEC locations. Despite tight deadlines, the charging box was ready in good time for the vehicle to go into series production.

## Compact casing solution with timeless design



Front view of design casing with a range of displays and control button



Schematic 3D model view of charging box from above with charger plug

## Technical Summary

- › Customer-specific design casing
- › Input voltage 230V AC  $\pm$  10%
- › Input frequency 47-63 Hz
- › Input current: max. 10 A
- › Output voltage 150-250V DC
- › Output current: max. 13.5 A
- › Power output: max. 2 kW
- › Protection class: 1 – device with protective conductor
- › Weight: approx. 22 kg
- › W x H x D: 580 mm x 441 mm x 202 mm
- › Mains plug: CEE 7/7 (type E/F)
- › IP 54 – protection against dust and splashing water
- › EMC protection

## Customer Benefits

- › Reliable device concept
- › Cost-optimized system solution
- › Light, sturdy casing in accordance with design requirements
- › High shock and vibration resistance
- › Powerful system in accordance with customer specifications
- › High functional reliability
- › Rapid implementation in accordance with customer

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