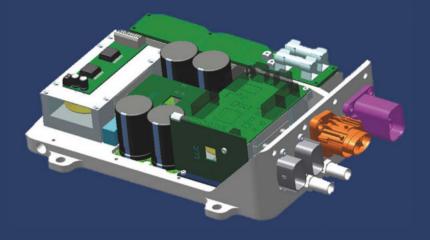


FRAUNHOFER INSTITUTE FOR INTEGRATED SYSTEMS AND DEVICE TECHNOLOGY

3.7 kW Battery Charger for automotive applications





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Description

With a volume of less than 4 liters and an efficiency of 95% the presented 3.7 kW Battery Charger is designed for automotive applications. The charger offers a galvanic isolation of the high voltage battery regarding the AC-mains what means it is suitable to Typ-A RCDs and is supporting charging mode 2 and mode 3 according DIN EN 61851-1 including control of Typ 2 receptacle with LED-ring and lock. Due to a 2-stage design approach with PFC, DC-link, and insulating DC/DC converter, a constant charging current is available and the battery output voltage range can be customized. The charger is controllable via CAN communication and it can be cooled via integrated water cooling channels or by an external attached air cooled system. The 3.7 kW Battery Charger is the smallest charger system within a broad on-board charger product line for 3.7 kW, 7.4 kW, 11 kW and 22 kW demands which are all based on a modular circuit design approach.

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Technical Data

Galvanic isolation	Yes
Max. input power @ 230 V _{AC} ,16 A	3.7 kW
Battery voltage range	315 V – 395 V
Input voltage range	115 V- 230 V _{eff}
Efficiency	Max. 95.3% Typ. 95%
Dimensions	275 mm x 185 mm x 78 mm
Volume	< 4
Protection degree	IP 67
Supply voltage range	8 V – 16 V

Features

- •Small size
- •Galvanic isolation
- •Suitable to Typ-A RCDs
- •Supporting charging mode 2 and mode 3 according DIN EN 61851-1
- •Customized battery voltage range
- •DC-output current
- •Suitable for water and passive cooling
- •CAN communication
- •Temperature derating
- •Over current/voltage protection

Efficiency Measurements

