DC discharge inverter for new energy vehicles

Overview

These vehicles require specialised DC V2L discharge inverters for external power supply. Discharging high-voltage DC link capacitors in automotive inverters typically requires bulky, costly external components impacting significantly the bill of materials (BOM) cost (estimated $4–$6 per inverter), consuming valuable PCB space, and complicating the design—particularly in compact and. The DC-Link capacitor is a part of every traction inverter and is positioned in parallel with the high-voltage battery and the power stage (see Figure 1). The DC-Link capacitor has several functions, such as to help smooth voltage ripples, filtering unwanted harmonics and reducing noise. To provide. External power output from new energy vehicles is categorised as AC (alternating current) or DC (direct current) external discharge. Practical application types primarily include V2L (Vehicle-to-Load), V2V (Vehicle-to-Vehicle), V2H (Vehicle-to-Home), and V2G (Vehicle-to-Grid). Here, “V” denotes. Increasing vehicle electrification has opened a niche for power supplies, such as DC-DC converters and inverter modules, which are not required in most internal combustion engine vehicles. NXP enables efficiency, safety, and reliability with multicore lockstep MCUs for motor control, system basis chips for power. DC to AC EV discharge adapter, also known as an electric vehicle (EV) inverter, is a crucial component in the field of electric vehicle charging infrastructure.

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DC-DC Converters and Inverter Modules for Electric Vehicles

Increasing vehicle electrification has opened a niche for power supplies, such as DC-DC converters and inverter modules, which are not required in most internal combustion engine vehicles. ...

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The DC-Link capacitor is a part of every traction inverter and is positioned in parallel with the high-voltage battery and the power stage (see Figure 1). The DC-Link capacitor has several functions, ...

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The DC to AC EV discharge adapter is an electronic device that converts the direct current (DC) power stored in the battery of an electric vehicle into alternating current (AC) power.

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Electric Vehicle (EV) Traction Inverter , NXP Semiconductors

The traction inverter converts DC battery power to precise AC for EV motors, delivering between 80 to over 300 kW power under extreme thermal conditions in a compact design.

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A DC-Link Hybrid Active Discharge Scheme for Traction Inverters

This paper examines the limitations of traditional discharge techniques and

proposes a novel hybrid discharge solution that combines the existing winding-based discharge method with a flyback converter.

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