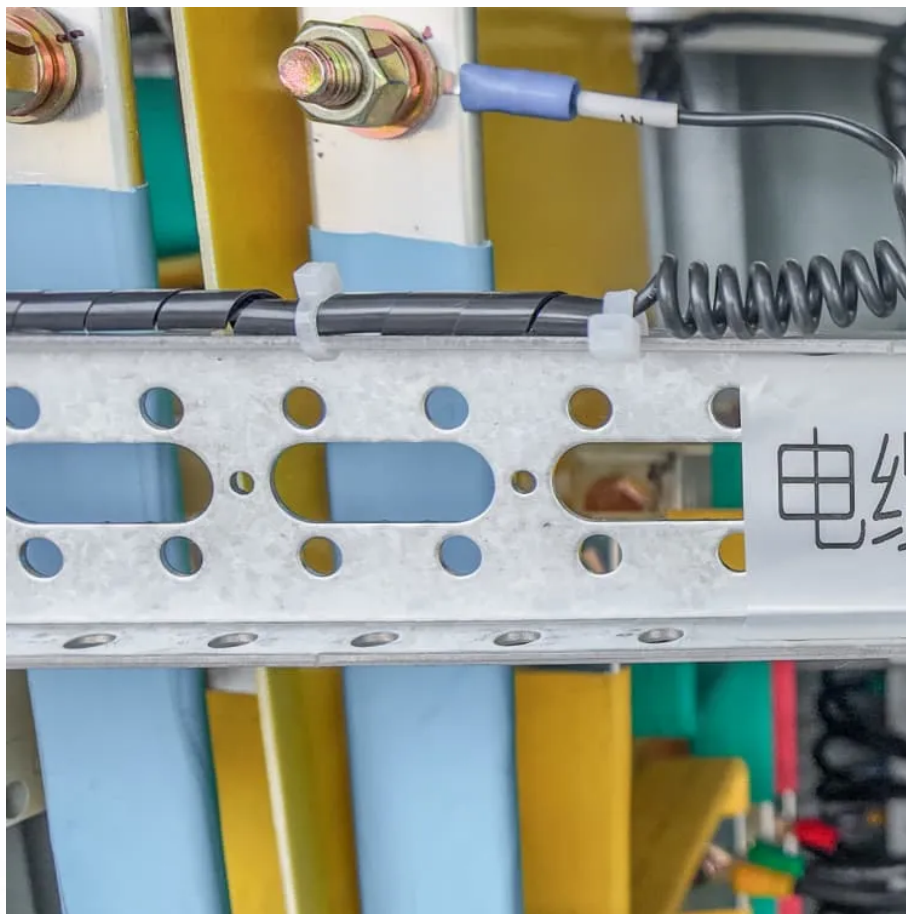


# DC Discharge Inverter





## Overview

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Do EV traction inverters need a DC link active discharge?

Every EV traction inverter requires a DC link active discharge as a safety-critical function. The discharge circuit is required to discharge the energy in the DC link capacitor under the following conditions and requirements: Power transistor on, off control using the TPSI3050-Q1.

What is an active discharge circuit for electric vehicle inverter?

1. An active discharge circuit (10) for electric vehicle inverter (1), the active discharge circuit intended to be connected in parallel with a DC link capacitor (5) connected between positive and negative lines (3).

Why do EV inverters need to be discharged?

Abstract: when an Electrical Vehicle (EV) encounters an accident or the vehicle is taken to a service station, the DC-link capacitor in the inverter must be discharged to ensure safety of both the passengers and the operator.

What is a discharge resistor?

Discharge resistors are used to discharge DC links. They discharge the electricity after an electric vehicle has been switched off and convert the energy into heat. This allows the DC link to be discharged reliably. The requirements and various methods for how best to carry out the discharging process are explained below.



## DC Discharge Inverter

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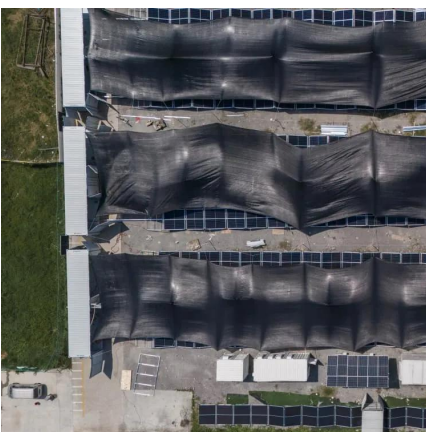


### [How to Reduce the Power Resistor for DC-Link ...](#)

Aug 16, 2024 · 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 ...

### [SAFE ACTIVE DISCHARGER CIRCUIT FOR INVERTER IN ...](#)

May 12, 2021 · (54) SAFE ACTIVE DISCHARGER CIRCUIT FOR INVERTER IN VEHICLE (57) An active discharge circuit for electric vehicle inverter, the active discharge circuit intended to ...



### **DC Link**

4 days ago · Applications » Automotive » HV Inverter for Electric Vehicles » DC Link - Discharge Circuit

### [FS EV Traction inverter control reference platform GEN 3](#)

Jun 14, 2025 · Acceleration time to market  
Reducing costs This reference design aims to



accelerate, de-risk and Thanks to system-wide features integration such as streamline/simplify ...



### [Design Priorities in EV Traction Inverter With Optimum ...](#)

Apr 1, 2023 · Every EV traction inverter requires a DC link active discharge as a safety-critical function. The discharge circuit is required to discharge the energy in the DC link capacitor ...



### **A DC-Link Hybrid Active Discharge Scheme for Traction Inverters**

Oct 28, 2024 · A DC-Link Hybrid Active Discharge Scheme for Traction Inverters October 2024 Conference: ECCCE Europe 2024 At: Darmstadt, Germany Authors:



### [An Active Discharge Scheme for DC-Bus Capacitors in EV ...](#)

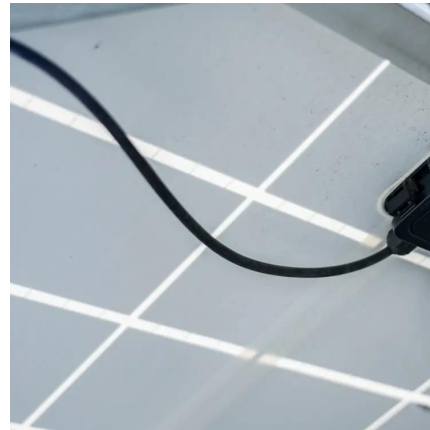
Jul 18, 2025 · During the emergency situations, key-OFFs, or maintenance, discharging the inverter dc-bus capacitor voltage within seconds is imperative due to safety concerns (inverter ...





## [Miba: Discharging the DC link , e-Mobility , Miba](#)

Discharge resistors are used to discharge DC links. They discharge the electricity after an electric vehicle has been switched off and convert the energy into heat. This allows the DC link to be ...



## **A DC-Link Hybrid Active Discharge Scheme for Traction Inverters**

Sep 6, 2024 · when an Electrical Vehicle (EV) encounters an accident or the vehicle is taken to a service station, the DC-link capacitor in the inverter must be discharged to ensure safety of ...

## [Enabling Smarter DC Link Discharge in EV Traction Inverters](#)

May 25, 2025 · Enabling Smarter DC Link Discharge in EV Traction Inverters By using an integrated gate driver for DC link discharging, you can shrink BOM costs, save PCB space, ...



## [A DC-Link Hybrid Active Discharge Scheme ...](#)

Oct 28, 2024 · A DC-Link Hybrid Active Discharge Scheme for Traction Inverters October 2024 Conference: ECCCE Europe 2024 At: Darmstadt, ...



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