
Inverter DC side charging resistor

What is a discharge resistor?

The resistance of the discharge resistor is either 3,9 kOhm or 39 kOhm depending on which inverter variant is selected (small/large system option, see the datasheet for more information). This discharge resistor is activated automatically to reduce the DC-link voltage when the device is shut off or trips to a hardware fault.

How does a voltage source inverter work?

This model extends the "Voltage Source Inverter" demo model by including pre-charging resistors connected to the three-phase source. These resistors are used to limit the inrush current during the initial charging of the DC-link capacitor. The inverter is controlled with an outer voltage control loop and an inner current control loop.

Can a discharge resistor force a DC-link voltage to zero?

Note that the discharge resistor cannot force the DC-link voltage to zero if there is some device actively feeding power into the DC-link, since the maximum dissipation power of the discharge resistor is very limited due to the high resistance.

Does the ec-c1200 inverter have a discharge resistor?

The EC-C1200 inverter has an internal discharge resistor, highlighted in the schematic below. The resistance of the discharge resistor is either 3,9 kOhm or 39 kOhm depending on which inverter variant is selected (small/large system option, see the datasheet for more information).

Inverter Power Resistor Applications The image below shows a typical inverter topology with the various resistor requirements highlighted. These requirements may include ...

In DC, with batteries, dump resistors are known and help to recuperate energy in heating when the battery is fully charged [3]. Operating aircons would be nice but not realistic ...

Inverter Current Formula: Inverter current is the electric current drawn by an inverter to supply power to connected loads. The current depends on the power output required by the ...

When initially connecting a battery to a load with capacitive input, there is an inrush of current as the load capacitance is charged up to the battery voltage. With large batteries (with a low ...

Charging C DC LINK up to the battery stack voltage (V BATT) prevents arcing on the contactor terminals, which can lead to catastrophic failures over time. The conventional ...

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 ...

Pre-charge In a high voltage system, a typical block diagram may consist of two high current contactors with a separate pre-charge contactor, and a DC link capacitor in ...

AFE for Insulation Monitoring in High-Voltage EV Charging and Solar Energy Reference Design
Description This reference design features an Electric Bridge DC Insulation ...

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2.1 Power circuit A stiff three-phase voltage source with line inductance is connected to the AC-side of 2-level IGBT con-verter. This model extends the "Voltage Source ...

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