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(54) **METHOD, SYSTEM AND APPARATUS FOR DISCHARGING DC LINK CAPACITORS IN POWER-DISTRIBUTION-UNITS**

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(57) **ABSTRACT**

The present subject matter refers a discharge circuit for a smoothing capacitor within a power-distribution-unit. The discharge circuit comprises a first sub-circuit connected in parallel to a DC-Link capacitor, said first sub-circuit in turn comprises a series connection of a first switching element (SE) and a first discharge resistor, wherein the DC-link capacitor is connected in parallel to a power supply. A second sub-circuit is connected in parallel to the DC-Link capacitor and comprises a series connection of a second switching element (SE) and a second discharge resistor. A control device is configured to control the plurality of SEs within the sub-circuits by scheduling switching of the plurality of SEs. Such scheduling comprises switching ON of the second SE after a switching ON of the first SE for enabling a discharging of the DC link capacitor within a predetermined duration.