

Title (en)
DEVICE AND METHOD FOR DIRECT-CURRENT SUPPLY

Title (de)
EINRICHTUNG UND VERFAHREN ZUR GLEICHSTROMVERSORGUNG

Title (fr)
DISPOSITIF ET PROCÉDÉ D'ALIMENTATION EN COURANT CONTINU

Publication
EP 3788710 A1 20210310 (DE)

Application
EP 18738205 A 20180620

Priority
EP 2018066369 W 20180620

Abstract (en)
[origin: WO2019242848A1] The invention relates to a device (2) and to a method for direct-current supply, which device can be connected to an power grid (4) with a polyphase AC voltage (U1ac) with a first frequency (N1), having a multistage current converter (MMC) with a plurality of phase modules (19) which are each formed from a plurality of two-pole submodules (21) which are connected electrically in series and which each have a plurality of semiconductor switches (S) and an energy store (23a), having an actuating unit (7) which generates actuation signals (11) for controlling the multistage current converter (MMC), and having a rectifier circuit (18a). In order to achieve a low-loss direct-current supply (direct-current source), in particular for the medium-voltage range and for high powers, it is proposed that the multistage current converter (MMC) converts the polyphase first AC voltage (U1ac) into a single-phase or a polyphase second AC voltage (U2ac) with a larger second frequency (N2), that at least one transformer (17a, 17b) is connected to the multistage current converter (MMC) which transforms the second AC voltage (U2ac) into a third AC voltage (U3ac) of the same frequency (N2) and phase number, wherein the third AC voltage (U3ac) is smaller than the first AC voltage (U1ac), and that the rectifier circuit (18a, 18b, 18c, 18d) is connected to the at least one transformer (17a, 17b) and converts the third AC voltage (U3ac) into a DC voltage (Udc).

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