

Title (en)  
BIDIRECTIONAL DC-TO-DC CONVERTER AND OPERATING METHOD

Title (de)  
BIDIREKTIONALER DC/DC-WANDLER UND BETRIEBSVERFAHREN

Title (fr)  
CONVERTISSEUR C.C.-C.C. BIDIRECTIONNEL ET PROCÉDÉ DE FONCTIONNEMENT

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Application  
**EP 22719516 A 20220325**

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Abstract (en)  
[origin: WO2022207513A1] The invention relates to a bidirectional DC-to-DC converter (10, 20, 30, 40, 50) for converting a DC link voltage (U<sub>zk</sub>) on the input side into an output voltage (U<sub>out</sub>) and vice versa, in particular for a transformerless charging station or for an energy store for temporarily storing energy from a servo drive. The DC-to-DC converter (10, 20, 30, 40, 50) comprises a series circuit composed of two half-bridges (H1, H2) which include four semiconductor switches (T1, T2, T3, T4) and each of which is connected between a DC link voltage bus (ZK+, ZK-) having a DC link voltage (U<sub>zk</sub>) on the input side and a medium voltage bus (ZM) having a symmetric, in particular a balanced-to-earth, medium voltage (UZK+, UZK-). Each center tap (M1, M2) of the half-bridge (H1, H2) cooperates with a storage choke (Ls+, Ls-) and a storage capacitor (CS) in such a way that two bidirectional synchronous converters are connected in series. According to the invention, at least one ring-around capacitor (CZVS, CZVS+, CZVS-, CZVS++, CZVS+-, CZVS-+, CZVS-- ) is connected to the center tap (M1, M2) of each half-bridge (H1, H2).

IPC 8 full level  
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