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**Hohmann**(10) **Pub. No.: US 2024/0213782 A1**(43) **Pub. Date: Jun. 27, 2024**(54) **CIRCUIT ARRANGEMENT FOR  
DECOUPLING A RECHARGEABLE  
BATTERY OF AN INVERTER**(71) Applicant: **ZF Friedrichshafen AG,**  
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**ABSTRACT**

A circuit arrangement for decoupling a rechargeable battery from a DC link of an inverter in the event of a fault is arranged in a pole line between the battery and the DC link. Each pole line is formed from a first path having a first power semiconductor that is low-voltage or low-resistance and a mechanical switching element connected in series therewith, and a second path connected in parallel with the first path having a high-voltage power semiconductor which is high-blocking from the DC link in the direction of the battery. During normal operation, the first power semiconductor, mechanical switching element are closed. During a fault, the first power semiconductor, the mechanical switching element, and the high-voltage power semiconductor are opened in this order and in each case in dependence on a present current and/or voltage state in the circuit arrangement.

