

Title (en)

ARRANGEMENT FOR LIMITING OVERVOLTAGES ON FUNCTIONAL PARTS OF CONVERTER-FED ELECTRIC MACHINES

Title (de)

ANORDNUNG ZUM BEGRENZEN VON ÜBERSpannungen AN FUNKTIONSTEILEN UMRICHTERGESPEISTER ELEKTRISCHER MASCHINEN

Title (fr)

DISPOSITIF DE LIMITATION DES SURTENSIONS SUR DES ELEMENTS FONCTIONNELS DE MACHINES ELECTRIQUES ALIMENTEES PAR UN CONVERTISSEUR

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Application

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Abstract (en)

[origin: WO2006117209A1] The invention relates to an arrangement for limiting overvoltages on functional parts of converter-fed electric machines. The aim of the invention is to create an arrangement in order to limit as far as possible the voltages that are applied particularly to the bearings and the grounding brushes as well as the high-frequency currents flowing through said components. Said aim is achieved by a novel arrangement of a capacitor that is connected in parallel to the functional parts in combination with a sliding contact while the connecting and terminal wires are embodied in a special low-inductance manner. Furthermore, an inventive additional rotating contact mechanism establishes a safe contact to the rotor shaft. In a second embodiment, one or several rotating contact mechanisms are connected towards the rotor shaft between the neutral point of the housing of the electric machine. Said arrangement allows the rotor shaft to be directly short-circuited for both low-frequency and high-frequency components by means of the housing of the machine. The inventive rotating contact mechanism creates, in a very simple fashion, a reliable, galvanic contact to the shaft, which is independent of rotational speeds and oscillations and is equally suitable for low-frequency and high-frequency discharge currents. The disclosed arrangement results in an extension of the service life of the machine bearings and the grounding brushes.

IPC 8 full level

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