

Title (en)

HOMOPOLAR ELECTRO-MECHANICAL ROTARY POWER CONVERTER

Title (de)

GLEICHPOLIGE ELEKTRODYNAMISCHE DREHUMFORMERMASCHINE

Title (fr)

CONVERTISSEUR DE PUISSANCE ELECTROMECHANIQUE ROTATIF HOMOPOLAIRE

Publication

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Application

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Priority

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Abstract (en)

[origin: WO2004107549A1] The Homopolar Electro-mechanical Rotary Power Converter, converts electrical, but not mechanical energy. It may act as: an inverter of DC to polyphase AC; a converter of single phase AC to polyphase AC; or a converter of polyphase AC to single phase AC. The output waveform(s) shape(s) are governed by the shapes of the stator and rotor pole faces. The rotor (4) and (5), which is driven by a motor (1), has magnetically conductive segments (4) and carries no windings. The torque supplied to the rotor is only necessary for inertial accelerations and to counter mechanical energy losses. The reluctance of the main magnetic circuit remains constant. The subsections vary their reluctance with the position of the rotor. The device is homopolar because, when excited by DC, all flux paths are unidirectional and are channelled through the stator body (3) to the rotor pole. The speed of the rotor determines the output frequency.

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