

Title (en)

AN ELECTRICAL MACHINE WITH A STATOR HAVING MULTIPLE SECTIONS WINDING COIL AND SWITCH COMBINATIONS

Title (de)

ELEKTRISCHE MASCHINE MIT EINEM STATOR MIT EINER WICKELSPULE MIT MEHREREN ABSCHNITTEN UND SCHALTERKOMBINATIONEN

Title (fr)

MACHINE ÉLECTRIQUE POURVUE D'UN STATOR À SECTIONS D'ENROULEMENT MULTIPLES ET À COMBINAISONS DE COMMUTATEURS

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Application

EP 17869388 A 20171109

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Abstract (en)

[origin: WO2018087689A1] The present invention relates to an electrical machine for attaining varying torque at different speeds in vehicles by using switch combinations. The electrical machine comprises a coil with multiple sections C1, C2, C3, C4, C5, C6 connected such that all sections are in a series configuration to increase the Kt and some of the sections C1, C2, C3, C4, C5, C6 are connected in parallel to reduce the Ke. This increases the no-load speed during the motoring mode and reduces the voltage generated by the machine during the generation mode, by using switch arrangements. When the sections C1, C2, C3, C4, C5, C6 are connected in parallel, it reduces the resistance of each phase thereby reducing the copper losses and thus improves the efficiency of the machine. The applications are in integrated starter generator (ISG) system of any vehicles to provide high starting torque and to generate less voltage at high rpm. Also, can be used in any motor to provide torque to the vehicle at higher speeds.

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