

Title (en)
ELECTRONICALLY COMMUTATED ELECTRIC MOTOR FEATURING PREDICTION OF THE ROTOR POSITION AND INTERPOLATION, AND METHOD

Title (de)
ELEKTRONISCH KOMMUTIERTER ELEKTROMOTOR MIT EINER ROTORPOSITIONS-PRÄDIKTION UND EINER INTERPOLATION UND VERFAHREN

Title (fr)
MOTEUR ÉLECTRIQUE À COMMUTATION ÉLECTRONIQUE AVEC PRÉDICTION DE LA POSITION DU ROTOR ET UNE INTERPOLATION ET PROCÉDÉ CORRESPONDANT

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Application
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Priority

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Abstract (en)
[origin: WO2011020682A1] The invention relates to an electronically commutated electric motor comprising a stator and an especially permanent-magnetic rotor. The electric motor also comprises a control unit which is effectively connected to the stator and is designed to generate control signals for commutating the stator in such a way that the stator can generate a rotating magnetic field in order to rotate the rotor. The electric motor further comprises at least one rotor position sensor which is designed to detect a position, especially an angular position, of the rotor and generate a rotor position signal representing the position of the rotor. The control unit is designed to generate the control signals in accordance with the rotor position signal. According to the invention, the control unit is designed to sample and quantize the rotor position signal and generate a digital rotor position signal. The digital rotor position signal forms a time-related data stream which corresponds to the sampled and quantized rotor position signal. The control unit includes an interpolator which is designed to generate at least one intermediate value in the digital rotor position signal, said intermediate value lying between two successive rotor position values.

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