Title (en)

ELECTRIC MACHINE, ESPECIALLY A RELUCTANCE MOTOR

Title (de)

ELEKTRISCHE MASCHINE, INSBESONDERE RELUKTANZMOTOR

Title (fr)

MACHINE ELECTRIQUE, EN PARTICULIER MOTEUR A RELUCTANCE

Publication

EP 1060554 A1 20001220 (DE)

Application

EP 99924742 A 19990401

Priority

- DE 9900988 W 19990401
- DE 19831165 A 19980711

Abstract (en)

[origin: DE19831165A1] A low cost embodiment of an electric machine known per se and which can be operated as a reluctance motor, comprising a stator with an annular magnetic return body, six stator pole teeth extending radially inwards therefrom, and a rotor with four rotor pole teeth, whereby said rotor is rotationally mounted in the magnetic return body. Excitation coils assigned to the six stator pole teeth are wired in such a way that the electric machine can be operated with three phases. One disadvantage is that when the excitation coils are supplied with current, diagonally opposite stator pole teeth cause the magnetic return body to move elastically against the rotor and become elliptically deformed. Such elliptical deformations result in noise emissions. According to the invention, the number of stator pole teeth (201, 202) and rotor pole teeth (301) can be selected in such a way that three magnetized air gaps are formed with minimum reluctance arising from the rotational orientation of the rotor (300) in relation to the stator (200) between three pairs of stator pole teeth (201, 202) and rotor pole teeth (301). This results in the following: in comparison with prior art, three areas are now pulled elastically towards the axis of rotation of said rotor (310) and the elastically deformed areas of the magnetic return body only encompass an angle of 120 DEG , whereby they can act with greater rigidity. One advantage is that deformations can occur at the same frequency but with lower amplitudes, thereby resulting in less noise.

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H02K 1/00

IPC 8 full level

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CPC (source: EP KR US)

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