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(54) **MOTOR AND CONTROL DEVICE THEREOF**

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(57) **ABSTRACT**

The torque of a permanent magnet motor is increased. There is provided a permanent magnet type motor with concentrated windings, in which each stator pole has a circumferential pitch of 185° or more in an electric angle. In this motor, the circumferential distribution of the magnetic flux density in an air gap surface of the rotor poles PR of the permanent magnet type has an approximately trapezoidal shape. Moreover, the induced voltages of the concentrated windings of the stator have an approximately trapezoidal waveform. An approximately trapezoidal-shaped waveform current is energized in the concentrated winding of each phase. Even if the magnetic flux density is close to the maximum flux density of the soft magnetic member of the stator, large slot cross-sectional areas of the stator can be secured, thus outputting a large torque.