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(54) METHOD OF DETERMINING A POSITION OF A ROTOR OF A BRUSHLESS PERMANENT MAGNET MOTOR

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(57) **ABSTRACT**

A method of determining a position of a rotor of a brushless permanent magnet motor includes measuring phase current flowing through a phase winding of the motor during excitation of the phase winding, and measuring voltage applied to the phase winding of the motor during excitation of the phase winding. The method includes calculating a phase of back EMF induced in the phase winding using the measured phase current and the measured voltage. The method includes determining a zero-crossing point of the back EMF induced in the phase winding using the calculated phase of back EMF induced in the phase winding. The method includes determining an aligned position of the rotor of the brushless permanent magnet motor when the back EMF induced in the phase winding is at the zero-crossing point.