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Can a permanent magnet 24v flow motor be connected to an inverter

Overview

What is a permanent magnet synchronous motor (PMSM)?

Permanent magnet synchronous motor (PMSM) and permanent magnet brushless DC motor (PMBLDCM) drives find wide application as industrial drives and in electric vehicles. These motors are inverter driven and require sensing of rotor position information to generate gate pulse for the inverter to rotate the rotor in the forward direction.

How do inverter motors work?

These motors are inverter driven and require sensing of rotor position information to generate gate pulse for the inverter to rotate the rotor in the forward direction. The sensing of rotor position can be using sensors which work on Hall effect, phototransistors and disc encoders.

What are permanent magnet brushless DC motors used for?

Permanent magnet brushless DC motors are used in laser printers, hard disc drives and electric vehicles [2, 27]. Electronic switching of the six-step inverter is controlled by the rotor position which is sensed by using either the optical or the Hall effect sensors [2, 3, 4, 5].

Is there a mechanical commutator in AC permanent magnet synchronous machines (PMSM)?

As there is no such mechanical commutator in AC Permanent Magnet synchronous Machines (PMSM), the functionality of the commutator has to be substituted electrically by enhanced current control.

How does a permanent magnet synchronous machine work?

The three-phase output voltage of this inverter is fed to the Permanent Magnet Synchronous Machine model from specialised technology block set. To this machine model, an external step load of 0.5 Nw-M for the first 2 seconds and 0.25 Nw-M for the remaining time is applied. Machine parameters shown

in Table 7.2 are used.

What is the rotor speed of SVPWM inverter?

The mean rotor speed is 52.2 mech rad/sec which is very close to the set point speed of 54.140 mech rad/sec. The steady state stator current in Fig. 7.20 is close to 0.99 amps as recorded in Table 7.4. Also from Fig. 7.21, the line to line output voltage of three-phase SVPWM inverter is 24.14 volts (RMS) and the frequency is 16.824 Hz.

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