

ABSTRACT

In a brushless DC motor system, an RMS value of an input current of a voltage-fed inverter (702) is detected by a current transformer (705) and an RMS value
5 detector circuit (706). A rotation speed of a brushless DC motor (703) is detected based on a cycle of a position signal outputted by a position sensor circuit (704). Then, in response to the RMS value of the input current and the rotation speed, the phase of the inverter output voltage
10 relative to the phase of the motor counter-electromotive voltage is set to a phase at which the motor efficiency comes generally to a peak, and a switching command to the voltage-fed inverter (702) is generated. With this constitution, when the applied voltage waveform is
15 controlled only by the voltage-fed inverter in response to the rotor-position detection signal, the motor attains high-efficiency operation without involving any increase in cost and yet regardless of load conditions.