ABSTRACT

Operation of an Electrical Machine

An electrical machine is controlled without using a physical rotor position detector. When more than one phase is used simultaneously to produce sufficient torque for the application, the increased leakage flux and the reduced permeability of parts of the magnetic circuit distort the information gleaned from diagnostic pulses. By storing sets of characterising data appropriate to the number of phases in use, the control system is able to determine the rotor position more accurately.

Figure 11