Implementation of a small size electronic power module for motor control

Abstract

There are several speed drives and electronic devices in the market used to control the speed of ac motors. The recent invented development kit is the Microchip dsPICDEM MC1 motor control development board which is rather huge in size and bulky. In fact, it is not bringing convenience to be mobilized from one place o another. In consequence, based on the advantages brought to the world of technology by dsPICDEM, smaller equipment is designed. This compact sized development board is favourable due to its convenient size. The objective of this paper is to evaluate the process flow of the signal in the converter module and fabricate small size electronic components that obtain the same values required for motor speed control. The small driver is able to convert the input current from the humidity and temperature sensor to the motor speed in order to develop a sensitive motor with the atmosphere. Hence, senseless vector control or direct torque control can be employed in the microcontroller program to improve the performances of the development kit. This therefore, calculates speed and position of the rotor based on the feedback output voltage and current.