Abstract

Yasser Gaber A. Dessouky

Embedded control of a boost unity power factor supply with a dc motor load

This paper presents a proposed setup utilizes a boost converter circuit driving a dc motor load. A pulse width modulation (PWM) technique is assessed to realize a sinusoidal supply line current, hence improving system power factor. Experimental hardware has been constructed and the software control algorithm has been implemented using an embedded C167 microprocessor. System response is demonstrated for two control modes: voltage control mode and speed control mode. Experimental results show simplicity and effectiveness of the proposed setup.