

## **MICROCONTROLLER BASED CONSTANT VOLTS/HERTZ OPERATION FOR VARIABLE SPEED CONTROL OF THREE PHASE INDUCTION MOTORS**

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Three-phase induction motor is employed as the workhorse in industries and other electric appliances such as refrigerators, air-conditioners and washing machines. The energy consumed by the electric motor represents a large portion of the total energy consumption. Thus in these days of soaring fuel prices everyone is concerned about the efficiency of motor drives in their appliances.

For many years the three-phase induction motor drive has been preferred for a variety of industrial applications because of its robust nature and simplicity in control. Until a few years ago, the asynchronous motor could either be plugged directly into the network or controlled by means of the well-known scalar V/f method.

It is the real time-processing properties of silicon, such as the Infineons C167CS controller, and the accurate asynchronous motor model that have resulted in the development of highly reliable drives with accurate variable speed controllers. The ability to achieve such control renders the asynchronous drive a highly advantageous system for both home appliances and for industrial or automotive applications. Key advantages are the robustness, reliability and efficiency of the drive. Such drive systems are cost effective too.

In this paper control of induction motor using V/F control scheme with Infineons C167CS 16-bit CMOS single chip microcontroller is presented. The theory behind the system and several features of the microcontroller are also included.