

Single Phase AC Motor Speed Controller (with project report)

ajay_bhargav, Sat Jun 09 2012, 07:41 pm

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Everyone wants to control real world devices through microcontroller but we all wonders, how this can be done? So Here is another sensational project from our known friend Nasim Majoka ([Majoka](#)) who also our forum moderator.

Single Phase AC Motor Speed Controller project will explain you what exactly is needed to make control a real world device using our well known 8051 microcontroller. In this project user can use switches to controll speed of AC motor and LED display is provided to show the current speed. This project also comes with a Windows application written in Visual Basic from where you can control speed of motor.

Here is a very simple example of AC motor speed control given by changing firing angle of TRIAC with the help of micro controller AT89C51. Varying speed of AC motor by means of changing firing angle of any thyristor is very widely used method. One very nice example is fan regulator in which a fan motor is an AC motor used and its speed is varied using TRIAC method.

A zero crossing detector circuit is used here to interrupt AT89C51 after every 10 ms. After getting an interrupt 89C51 will fire TRIAC after some delay from 1 to 9 ms. This will cut the current supplied to motor and so the speed of motor will reduce. Thus by varying the delay after which the TRIAC is triggered one can change the speed of motor.

This Project includes project report, circuit schematic, 8051 code written in C language and VB user interface source code. You can download this project from link below:

[Single Phase AC Motor Speed Controller](#)