AUTO CONTROLLING OF THREE PHASE INDUCTION MOTOR

Prepared by: Jee Tse Seng

ABSTRACT

The auto controlling of three phase induction motor present the monitoring the condition of the induction motor. This project is design to have 2 parts, the phase fault detector and the main board. The phase fault detector control the upper and lower limit of the induction motor and the man board, used the PIC16F877A to control the input system and display the condition on LCD display.

In this system, the phase fault detector, PIC16F877A and the LCD display play an important part which interacts with each other. The phase fault detector senses the condition of the voltage and send to the PIC16F877A. The PIC16F877A will initialize the data and display the condition on the LCD display. All circuit board are mounting on the 7inc X 12inc X3inc box case.

The embedded system used for this project included LCD control and input system control. On board PIC programming and UART also included in circuit design for the convenience purpose. For reading the voltage from phase fault detector, the voltage divider and ADC is used. Voltage divider used to protect the microcontroller from over voltage while the ADC is the function of the PIC which used to converting the analogue signal to digital and transmit the data to PC through UART. After getting the data from the PC, the LCD is used to show the data and condition of the induction motor. This project is fully controlled by the PIC16F877A which determining the input data, converting analogue signal to digital and displaying the condition of induction motor are all done by the PIC16F877A.

The project designs have been carried out and fulfilled the objective of the project. The auto controlling of 3 phase induction motor is operation well and the LCD also give the satisfy result which all condition is display on its,

Keyword: PIC16F877A, phase fault detector, LCD display, on board PIC programming, UART, ADC