

3 Phase Induction Motor Fault Detection, Temperature Control & Phase Sequence Test

About This Project:

The three phase induction motor is a very important electrical device in the present period of automation. These motors are commonly used in industrial drive because they are simple to construct, reliable, cheap and easy to operate. However, the induction motors experience electrical faults like over voltage, overcurrent, under voltage, overload, unbalanced voltage, phase reversing and single phasing. These electrical faults result in the heating of the motor's windings which leads to reduction in its efficiency and life span. The motor needs to be protected against these electrical faults in order to prevent it from being damaged. In this project, a new technique for the protection of three phase induction motor, using a microcontroller is introduced. A self-diagnosis which informs that a problem has occurred and by which parameter is implemented. Experimental results show that microcontroller based hardware system provides higher accuracy. And when compared with conventionally protected induction motor, the motor efficiency and power factor showed improvement. The details can be better understood through the block diagram which is given below.

Block Diagram:

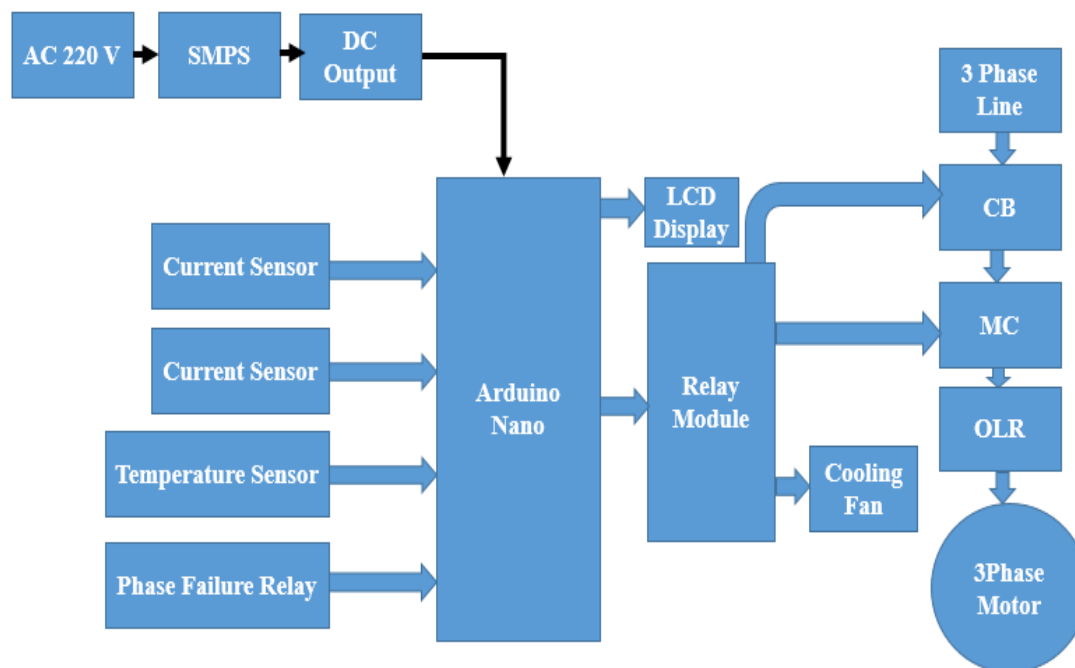


Figure: Block Diagram of 3 Phase Induction Motor Fault Detection, Temperature Control & Phase Sequence Test

Required Instrument:

- SMPS
- 3 Phase Motor
- Current Sensor
- Temperature Sensor
- Arduino Nano
- Circuit Breaker
- Magnetic Conductor
- Relay
- LCD Display

Advantages:

- Easy to detect motor fault.
- The system can be control temperature and phase sequence.
- Reduce huge incident

Applications:

- The system can be implemented in industrial area.
- It can be implemented in factory uses.



N.B: Any modification of this project can be done as per your requirement. We will make the project according to your needs. Contact us with your any innovative engineering projects idea. We will help you to implement your project.

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