

FINAL YEAR PROJECT REPORT

THREE PHASE FAULT ANALYSIS WITH AUTO START OF INDUCTION MOTOR FOR TEMPORARAY AND PERMANENT FAULT USING SINGLE PHASE TO THREE PHASE CONVERTER



A PROJECT REPORT

Submitted by

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Declaration of Originality

Here by we announce that work and advancement expressed in this report and venture is totally our own work and nothing in this record is duplicate glue from some other sources.

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ACKNOWLEDGEMENT

Murtaza Hassan:

Man always needs inspiration in his life. And my genuine inspiration lies in my parents and some people closely linked with me. The project was not an easy task but with the assistance and cooperation of my friends it became quite easy. And similarly, the credit goes to my dear instructor Fahad Usman khan and Sir Muhammad Atif for helping me out in this tedious task. God Bless you all!

Malik Arshad Iqbal:

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Ahmed Raza Rizvi:

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ABSTRACT

The goal of this particular project is to design a prototype auto start of three phase induction motor using single phase to three phase converter and having the capability of fault analysis in three phase power supply. The dominant earmarked of this design is that it can distinguished either the fault in three phase power supply is temporary or permanent. The desideratum of this project is to run the induction motor at a constant speed as the induction motor is used in many industrial applications like in conveyer belts and lathe machines. The premeditated scheme, ideas and approach from the theoretical stage is converted into the hardware component. The relay based logic circuit can detect different faults like cutoff of any phase, over voltage, voltage fluctuation and current fluctuation and under voltage condition that can damage the winding of induction motor as well as the production of industry. When any fault is occurred in three phase Power supply the relay based circuit isolates the faulty phase and makes a decision that either the fault is temporary or permanent. If the fault is removed within second then this is a temporary fault and after that time the motor will run and if the fault is not removed within a second then the fault is permanent. Now, remaining phase are converted into DC voltages using a Rectifier and a microcontroller based circuitry converts these DC voltages into AC voltages by Driving a Hex bridge consisting Six IGBT's using Pulse Width Modulation .