FAULT DIAGNOSIS, DESIGN AND IMPLEMENTATION OF CONTROL CIRCUIT FOR INSTRON FATIGUE TESTING MACHINE

A thesis submitted in partial fulfillment of the requirements for the degree of

Bachelor of Technology
in
Electrical Engineering

By

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Indian Scientific Community

National Institute of Technology Rourkela

CERTIFICATE

This is to certify that the project entitled, **"FAULT DIAGNOSIS, DESIGN AND IMPLEMENTATION OF CONTROL CIRCUIT FOR INSTRON FATIGUE TESTING MACHINE"** submitted by **Tuljappa M Ladwa** is an authentic work carried out by him under our supervision and guidance for the partial fulfillment of the requirements for the award of **Bachelor of Technology Degree** in **Electrical Engineering** at **National Institute of Technology, Rourkela.**

To the best of my knowledge, the matter embodied in the project has not been submitted to any other University / Institute for the award of any Degree or Diploma

Date- 07/05/2010 **(Prof. B.D. Subudhi)** **(Prof. Sandip Ghosh)**

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Abstract

Instron 1603 Electromagnetic Resonance Fatigue testing machine tests the Fatigue in the materials. This machine was imported to NIT Rourkela in 1988.After years of service this machine had stopped working due to various reasons. The service to this machine was also stopped from the supplier of this machine. In an intention to start the machine, it was necessary to know about the machine and there was no material available through which the author could know the functioning of the subcomponents of the machine. Reverse Engineering came to the rescue and the literature foundation of the machine has been done. The fault diagnosis of the machine was done to fix many faults in the machine. One point of time author realized that it would be difficult to proceed to fix the machine with the given data derived out of the machine. The fatigue testing was compromised and tensile and compression testing could be done with development of new control circuit designed and fabricated. Author has suggested some steps to be taken to restore the machine as fatigue testing machine or even design the new machine with latest technology.

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