PROJECT REPORT

ON

"Automatic Transfer Switch"

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR

THE REWARD OF THE DEGREE

BACHELOR OF SCIENCE

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In The Name of Allah the Most Beneficent and Merciful

ABSTRACT

An automatic Generator protection system is designed and developed. In this project all parameters of generator protection like over voltage, over current, over load, over temperature are controlled. . If any parameter will change from reference level the controller will observe and sent the instruction to the system keep it at reference level if possible otherwise trip the load and relax the generator. An electrical transfer switch that operates without the need for manual intervention. It is an electrical device that transfers the source of power being used from one power supply to another. Typically this transfer is between the local utility and emergency source of power and back. It maintains constant monitoring of voltage levels on the electrical circuit. It interfaces with a generator and building's electrical system. It monitors the utility power and signals the generator to start if as the utility power drops out entirely. Backup power is now fed to the main utility panel or an emergency panel via ATS.

Dedication

It is our privilege to express our deep gratitude and indebtedness to our **Management** of School of Science and Technology, UMT for their moral support.

We solemnly offer our sincere gratitude to our PROJECT ADVISOR "**SIR SALEEM ATA"** Department of Electrical Engineering, whose constant encouragement and cooperation has made this project successful. We thank **SIR JAWWAD NASAR CHATTHA,** for his valuable suggestions and cooperation in the completion of the project.

It is a great pleasure to complete our project in UMT under the guidance of **SIR JAMEEL AHMAD**, we highly grateful to them for their encouragement and open minded discussion during the project work. We express our heartful thanks to those who have directly or indirectly helped us in carrying out this project successful.

Last but not least we are thankful to our beloved PARENTS, who have stood behind us at all the stages of the project.

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Chapter No: 1

General Description

Automatic Transfer Switch

1- General Description about ATS:

(ATS) monitor the power supplies and automatically switch from the normal (utility) supply over to the generator supplied power source in the event of a power outage. ATS equipment can have many different control and alarm features. An ATS, with built in logic, can monitor the utility power, sense any power disruptions, and switch to an alternate power source. Some ATS equipment can even start and stop the generator on a predetermined maintenance schedule to assure the back-up generator works when you need it. In the event of a utility power failure, it is common for an ATS to automatically start our back-up generator and transfer our power source from the utility to the generator. When utility power is reestablished, the ATS will automatically transfer back to the normal supply and shut the generator down. Automatic Transfer Switches are critical components of any emergency or standby power system. Transfer switches are reliable, rugged, versatile and compact assemblies for transferring essential loads and electrical distribution systems from one power source to another. (ATS) monitor the power supplies and automatically switch from the normal (utility) supply over to the generator supplied power source in the event of a power outage.