

Chapter-1

INTRODUCTION

1.1 Introduction to Automation control

Automation or automatic control is used for various Control systems for operating equipment such as machinery, processes in factories, boilers and heat treating ovens, switching in telephone networks, steering and stabilization of ships or aircraft and other applications with minimal or reduced human intervention [1]. Some processes have been completely automated.

The biggest benefit of automation is that it saves labor however it is also used to save energy and materials and to improve quality, accuracy and precision. It essentially involves leveraging the power of technology to reduce the dependency on human presence and decision making for any process [2]. It leverages different electronic equipment (either standalone or interlinked with appropriate applications) to control different parameters of any process and to use the appliances in a smarter way to save energy [3]-[4]. It also enables people to be more energy conscious by enabling them to have a real time status of electric appliances [5]-[6]. and making the system automated also helps reduce peak hour power consumption by enabling people to turn off appliances at will remotely [7]. This facilitates a constant power supply by having varied pricing policies for different times of day and night.

The Aim of this project is to simplify the process of human-machine interaction through the use of a generic interaction system and to make things around us smarter and interactive. The Transformers are widely used in industrial, commercial and residential systems. Approximately 400cr of money is spent for repair and breakdown causes every year in our state Therefore, the efficiency and reliability of Transformer is of major factor to be considered, in order to improve the energy efficiency in distributions section and to save money.