

**DATA ACQUISITION SYSTEM (DAS) AND REAL TIME COMPUTING
FOR ENERGY MANAGEMENT IN BUILDING:
POWER DATA CONSIDERATION**

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ABSTRACT

This project describes the basic design features and operation of a Data Acquisition System (DAS) that is intended for use in energy management of buildings. It also describes how the software is developed in conjunction with the DAS. A high level language i.e. Turbo Pascal Version.6 is used. The software is then simulated to the real world condition whereby the energy parameters that are monitored are currently being displayed on the computer screen at some interval time. The signals that are obtained at each of the monitored points are conditioned, so that it can be handled by the interface card and can be used by personal computer. Protection circuit using crowbar overvoltage and overcurrent was introduced before the interface card for protection and isolation.

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1.0 INTRODUCTION

Energy Management System entered the market place during the early 1970s as means of coping with the energy crisis of that time. The focus on energy conservation and occupant comfort was not high priority. A very competitive market for building space makes it possible for occupants to insist on this in their leasing arrangements, along with good, reliable, mostly uninterruptable heating, ventilation and air conditioning (HVAC) service.

Buildings are the most significant users of electrical energy in the nation. Modern manufacturing demands the ability to monitor and manage the use of power. These functions include usage monitoring, demand and load management. With a power distribution monitoring system, the details of an electrical system can be monitored and observed from one location.

The modern Building Automation System are microprocessor based system dedicated to monitor, supervise and drive equipment's in building with the objective to minimise energy cost and to increase the comfort level of the occupants. It can also be used for security and safety.