PC BASED DATA ACQUISITION CONTROLLER FOR DC MOTOR

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ABSTRACT

This project is regarding the development of hardware and software for measuring and acquiring current, voltage and speed data of the experimental dc motor. The system is comprised of a personal computer (PC), 144 bit digital input output interface system and transducers. The system is capable of acquaring data from 18 transducers in sequence and stored it in the computer. The software program developed in this project was designed and written using a turbo C++. It provide the required flexibility especially altering or modification the operation system to suit specific application without doing much alteringtion to the hardware.

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CHAPTER 1

1.0 INTRODUCTION

DC motors are used in wide range of industrial applications particularly in variable speed drive. The successful implementation of this variable speed drive scheme depend on the proper controlled of the various motor parameters such as speed, current and terminal voltage. This require a computer controlled data acquisition controller capable of acquiring all the necessary parameters from the transducers and transmit them into the computer for computation. The compute data are then transmited out to the main speed controller circuit to generate the required signal for the drive system.

In this project, a data acquisition system was developed for purpose of collecting various data of the dc motor. This collected data can be stored in files and then can recalled later for computation. The block diagram of the system is as shown in figure 1. It comprises of interfacing system, signal converters, speed transducer, current transducer and voltage transducer.