ABSTRACT

Automatic data acquisition system can be broken down into four (4) basic stages, namely, measurement, signal conditioning, storage and analysis. Most multi-channel data acquisition systems use sequential data conversion so the sampling instants are dispersed in time. In this thesis, an eight (8) channel sequential microprocessor-based data acquisition system for an induction machine is discussed. The designs of the different transducers used for measurement of input parameters are examined in detail. The process of data conversion and storage is software controlled utilising the facilities of the Motorola M6809 microprocessor.

This system can be adapted to industrial environments and can be modified to accommodate different types of machinery to automatically obtain pertinent data so that the performance of the machinery can be monitored.