# ANEMOMETER: COMPUTER INTERFACING HARDWARE

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RUHAIDAWATI BINTI MOHD ALI PIAH 2001474766 B. ENG (Hons.) ELECTRICAL Faculty of Electrical Engineering UNIVERSITI TEKNOLOGI MARA (UiTM) Shah Alam, Selangor Darul Ehsan

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### ABSTRACT

The development of a computer-interfacing for a Digital-Propeller-Anemometer involves a few sets of instrumentation process. These processes include the process of capturing, transmitting and interfacing the data with a computer, and finally processing the data. The main objective of this paper is to design and build the RS232 terminal using PIC 16F873. Hardware to RS232 interfaces for the personal computer or RS232 compatible devices. This routine converts input voltage from the circuit to speed and transmits them afterwards to the target device by using the RS232 transmission protocol. This implementation feature a computer display as visual interface. RS232 data transmission is carried out using a software routine. A sensor measures a variable by converting information about that variable into a dependent signal of either electrical or pneumatic nature. Signal conditioning provides the operations necessary to transform a sensor output into a form necessary to interface with other elements of the process control loop. Data are record digitally on the computer and for this purpose the software is developed.

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### **CHAPTER 1**

### **INTRODUCTION**

#### 1.1 Introduction

This project is to design a computer interfacing for the anemometer reading in meter per second. To achieve this objective, an instrument is needed. This instrument should consist of mechanical system, which can be capture the signal when the air flows. Next, the signal will be processed. This process method we call as 'signal conditioning'. The signal conditioning process is very important process. It is a process to modify the signal so that it is transmitted in a more accurate or dependable manner. After that, this signal is transmitted and interface with the computer.

The development of a Computer Interfacing for an anemometer involves a few sets of instrumentation process. These processes include the process of getting the data (design and develop the mechanical and electronic system in order to capture the data), to transmit and to interface the data with a computer, and finally to process the data (software development).

The main objective of this project is to design and build the RS232 terminal using PIC 16873. Hardware to RS232 interfaces for the personal computer or RS232 compatible devices. This routine converts input voltage from the circuit to speed and transmits them afterwards to the target device by using the RS232 transmission protocol. This implementation feature a computer display as visual interface. RS232 data transmission is carried out using a software routine.