

WHEELIE METER USING PIC MICRO CONTROLLER

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ZANARUDDIN BIN KANDAR
Faculty of Electrical Engineering
UNIVERSITI TEKNOLOGI MARA
40450 SHAH ALAM, SELANGOR
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ABSTRACT

This project is concerned with the development of a PIC microcontroller and Flux-gate sensing combine to bring the ultimate in wheeled-distance measurement and display. The processor used is PIC16F84. The software is written in PIC language using software development tool, which is call MPLAB. It is a Window based development platform for the Microchip Technology microcontroller families.

The main objective of this project was to build a digital and multifunctional wheelie meter that can use on any vehicle as long as they used a tire from the small one like golf trolley to a bicycle and beyond using the FGM-3 magnetic field sensor, controlled by PIC microcontroller PIC16F84A and display using the intelligent liquid crystal (L.C.D).

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CHAPTER 1

INTRODUCTION

1.0 Introduction

Nowadays, the PIC microcontroller is getting familiar as controlling devices in the electronic field. Why PIC microcontroller? The reason is because PIC microcontroller is multipurpose, multifunctional and can be reprogrammable.

The main objective of this project is to build a digital and multifunctional wheelie meter that can use on any vehicle as long as they used a tire from the small one like golf trolley to a bicycle and beyond. In this particular project this wheelie meter can measure of wheel diameters up to about three meters and at speeds of up to about 100 m.p.h. The main parts of the system are microprocessor based PIC16F84A, sensor which used magnetic field sensor and intelligent liquid crystal display (L.C.D.). The sensor will sense the movement of the tire and PIC16F84A will process the data and (L.C.D.) will display the output. The design is simple to build and install but the software is complex.

These designs offer four mode selections for different measurement. The examples for mode selections are:

- 0 Show trip elapsed time and distance in kilometers
- 1 Show current speed and trip average speed in kilometers
- 2 Show trip peak speed and absolute distance in kilometers
- 3 Reset all trip counter to zero