

DIGITAL VEHICLE SPEEDOMETER AND SETTING A PASSWORD FOR LIMITING A VEHICLE SPEED

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ABSTRACT— Now a day's Accidents are increasing day by day and people are becoming heavily injured and some of them are lost their lives. Firstly in olden and modern days most of the vehicles came with analog speedometer. The speed niddle in the speedometer showing the speed of the vehicle. During the night time speed niddle of the speedometer not exactly visible. If driving a vehicle by observing the speedometer there are chance for causing an accidents for that purpose we are going for digital speedometer. Secondly most of the accidents are occurring due to over speed. So this paper presents a technique for limiting the speed of the vehicle and providing a password for accessing the speed of a vehicle. We will set the speed of a vehicle to 50% using the program and providing the security code to the speedometer. Parents of an Owner of the vehicle only know the password and none of the users cannot know the password. If the vehicle needs to be go fast user need a permission and password from parents.

INDEX TERMS: Ignition key, linear keypad digital speedometer, 89S52 microcontroller,

I. INTRODUCTION

A digital speedometer is an instrument in a vehicle that is used for indicating the speed in which it is actually traveling. It is at the same time useful for knowing the range that was traveled by the vehicle. This instrument is normally used in monitor the speed at vehicle is operating, and is extremely useful in roadways and highways that have a fixed speed limit.

In point, it's the development and also integration of this instrument as a normal function inside a vehicle that has ended in the enforcement of speed limitations with password protection. No car exists with a speedometer onboard, and it's also permanently attached with the normal speed of a motor vehicle.

The digital speedometer has changed with the innovative automobile. Because of the need to build a more up-to-date style in car interiors, the regular speedometer which uses a dial has nearly become obsolete. An electronic readout furthermore has the benefit of being more visible at night compared to classic design and style. That is for the reason that it's the numbers themselves that are illuminated,

instead of a lighted meter face on old fashioned speedometers. The rate of speed is commonly displayed in numbers on background lightened LCD.

Ignition key is used to control the vehicle on or off. The speed of the vehicle is limited to the predefined fixed levels. These speeds can be change by giving appropriate password. The speed is also displayed on LCD according to the speed limit given. The speed also can be changed by giving the keys up to the maximum limit

II. DESIGN OF PROPOSED HARDWARE

This paper describes about Prototype of the System for controlling the speed of a vehicle.

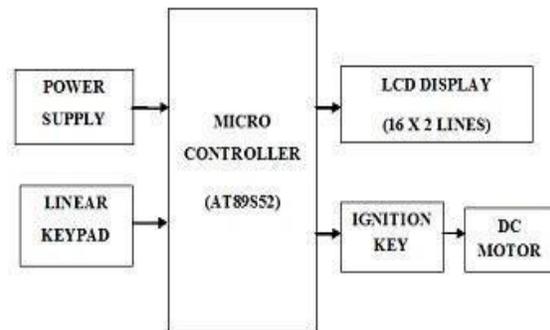


Fig. 1. Block diagram

Working Model:

Mainly the block diagram of the project consists of 89S52 microcontroller, ignition key, linear keypad, LCD, dc motor, power supply, transformers.

It basically consists of transformer and bridge rectifier to step down the 230v ac to 5v dc in order to provide the power supply to microcontroller. Microcontroller forms the whole control of the project because it controls the devices being interfaced and liaises with the devices according to the program being written. Ignition key is used to supervision the vehicle ON and OFF state. It is connected at the port 2.0 pin of a microcontroller.

Here dc motor is an output for this project and dc motor is connected to port 2.1 pin of a microcontroller And this motor controlled by the microcontroller with the respective inputs given by the user and it speed will be varied according to the speed set by the keypad switches. LCD meant to show up the status of the project and data pins of LCD are connected to the port 0 pins of a microcontroller and control pins of the LCD are connected remaining pins of port 2 of a controller.

III. MODULES USED IN THIS PROJECT

For proper working of a model the following modules are used

89S52 Controller:

The AT89S52 is a low-power, a 8-bit microcontroller with 40 pin DIP. In order to program the controller we are using 8K bytes of flash memory [1].



Fig. 2. Microcontroller Pi

Ignition key:

The term ignition switch is often used exchangeable to refer to two very different parts: the key is inserted into lock cylinder, and the electronic switch that perch just behind the lock cylinder. The ignition switch generally has four positions: off, accessories, on, and open [2].



Fig. 3. Ignition key

Linear Keypad:

This Keypad got 'n' no. of keys connected to 'n' data lines of microcontroller. This Keypad is used in places where one needs to connect less no. of keys. Generally, in Linear Keypads one end of the switch is connected to Microcontroller (Configured as i/p) and other end of the switch is connected to the common ground. So when a key of Keypad is pressed the logic on the controller pin will go LOW state.

Here in this project, a linear keypad is used with switches connected in a computing manner. Linear keypad is used in this module because it takes less no. of port pins [3].

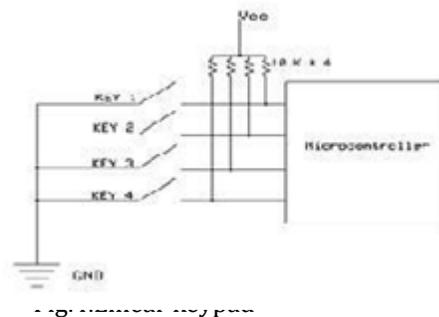


Fig.4. Linear keypad

DC Motor

Motor is rotating device which will convert rotating energy into electrical energy.



Fig.5. Motor

IV. TEST AND RESULTS

You can observe the speed of our vehicle In LCD it is showing vehicle speed enabled by the password

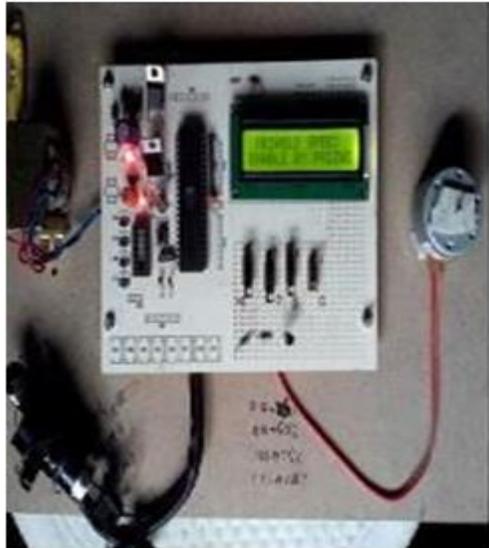


Fig.6. Output



Fig.7. Speed at 100%

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V.CONCLUSION

The Project Digital Vehicle Speedometer And Setting Password For Limiting A Vehicle Speed Has Been Successfully Designed And Tested. Merging The Features Of All The Hardware Components Used Has Developed It. Existence Of Every Module Has Been Reasoned Out And Placed Carefully Thus Distribute To The Best Working Of The Unit.