VISVESVARAYA TECHNOLOGICAL UNIVERSITY

"Jnana Sangama" Belagavi – 590010

MINIPROJECT SYNOPSIS ON

"Digital Fuel Indicator"

Submitted in partial fulfillment of the requirements for the award of degree

BACHELOR OF ENGINEERING
IN
ELECTRONICS & COMMUNICATION ENGINEERING

Submitted By

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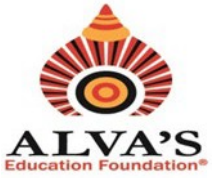

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

ALVA'S INSTITUTE OF ENGINEERING & TECHNOLOGY

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CERTIFICATE

This is to certify that following students

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have submitted Project synopsis on **"Digital Fuel Indicator "**for 4th Semester B.E. in Electronics & Communication Engineering during the academic year 2020-21. The project synopsis report has been approved as it satisfies the academic requirements in respect of Mini Project work prescribed for the Bachelor of Engineering Degree.

Project Guide	Mini Project Coordinator	HOD
Mr.Santhosh S	**Mr. Sudhakara H M**	**Dr.DV Manjunatha.**

DIGITAL FUEL INDICATOR

Keywords
Microcontroller, A/D converter, Analog fuel gauge, Float sensor.

INTRODUCTION

The aim of our project is to monitor the level of the fuel in the vehicle fuel tank and to automatically indicate the level information digitally, numerical value through LCD.

We are already aware that modern vehicles display the amount of fuel in the fuel tank by the means of Analog indicators, which oscillates between E (empty) and F (full) at its extreme ends or by digital bars running through E (empty) and F (full) indicators.

To the contrary every one of us might have experienced the problem with improper estimations of the current fuel indicating system. Thus, digital (numeric) fuel indicator system will help us exterminate common problems like-

1. Misinterpretation of the amount of fuel left by the drivers.
2. Petrol pumps theft cases.

Also, it will help us to know the current mileage of the vehicle.

APPLICATIONS

 To produce a numeric readout of the amount of fuel left in the tank.
 Capable of being in the dash of the vehicle, thus needed to minimum modifications.

 This project is adaptable to all types of vehicles, to indicate the amount of fuel in fuel tank

MAIN COMPONENTS

- LCD
- Microcontroller
- Analog to Digital converter (A/D converter)
- Petrol Tank with Float Sensors
- Analog Fuel gauge
- Battery

LCD

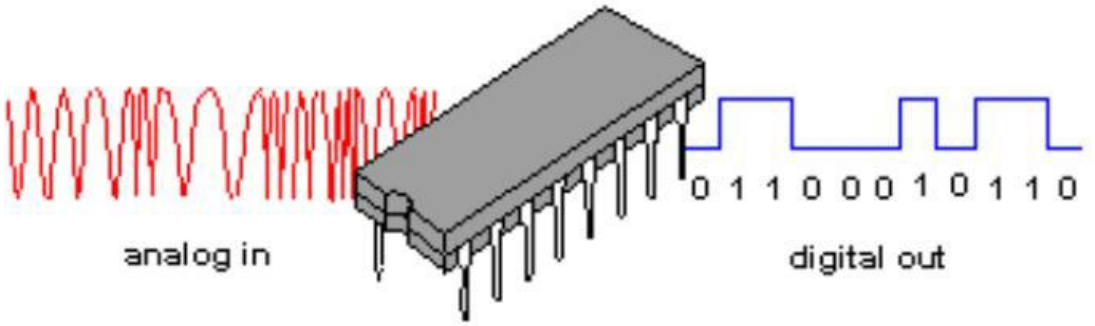
A liquid-crystal display (LCD) is a flat panel electronic visual display which shows the amount of fuel in the container in litres without much modification in the dash of the vehicle.

Microcontroller

A microcontroller will be used, which is a small computer on a single integrated circuit containing a processor core, memory and programmable input/output peripherals. Microcontroller used is a flash programmable and erasable read only memory.

A/D converter

It is a converter which converts analog value to digital value.



Petrol tank with float sensor

A petrol tank is a container where fuel is stored. It is provided with a instrument namely float sensor which measures the amount of the fuel in the tank.

Analog fuel gauge

It is a instrument used to indicate the level contained in the tank. Thus, it shows the amount of fuel in the tank (EMPTY, HALF, FULL). The gauge consists of two parts namely sensing unit and indicator.

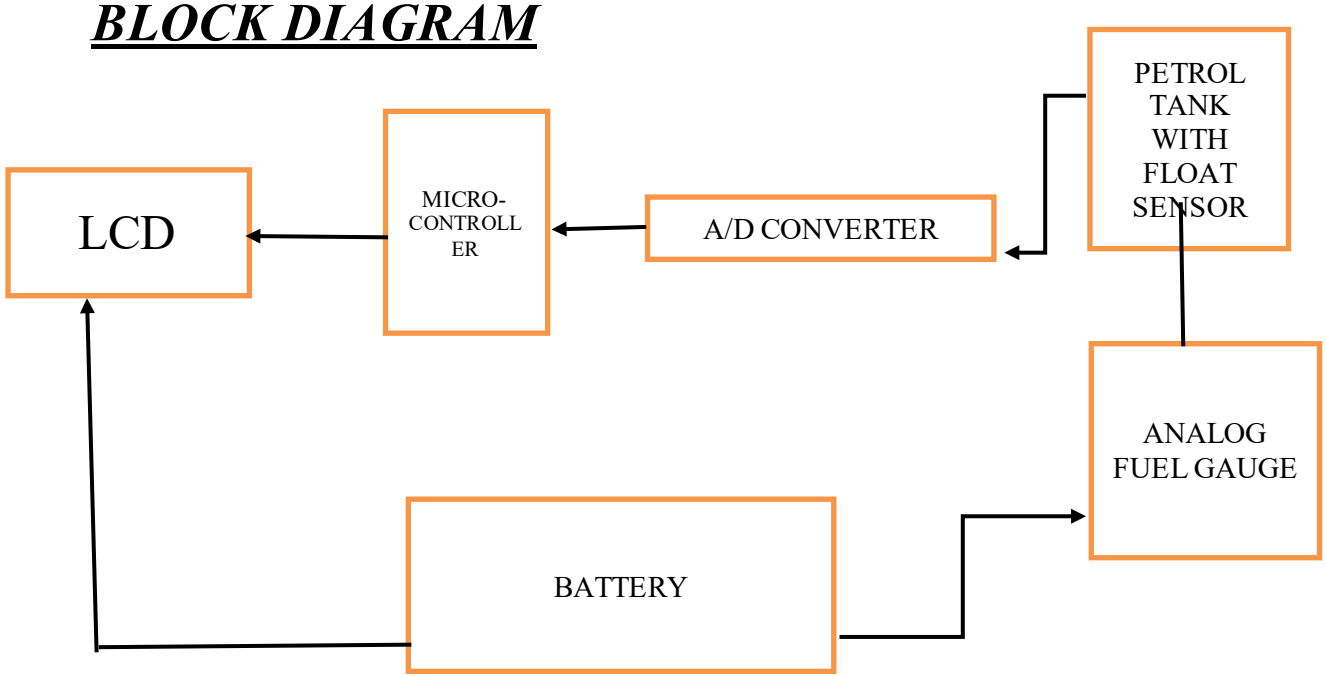
Battery

A battery is used to give supply to the Analog fuel gauge, A/D convertor along with LCD

CONSTRUCTION AND WORKING

The petrol tank with float sensor is connected to an Analog fuel gauge like every vehicle. The float sensor provides Analog value to the A/D convertor which converts Analog value to digital value which is further read by the micro-controller (which is flash programmable and erasable ROM). At last, the microcontroller gives the result of the amount of fuel in the tank which is displayed on a LCD screen. The system as a whole is connected to a battery.

BLOCK DIAGRAM



ADVANTAGES OF DIGITAL FUEL INDICATOR

 Digital fuel indicator helps to give measure of exact quantity of fuel left in the tank.
 Exterminate petrol theft cases.
 Mileage of the vehicles can also be determined.

DISADVANTAGES OF DIGITAL FUEL INDICATOR

 Cost is relatively high than analog meters.
 High maintenance required.
 It is robust in construction