

FUEL THEFT PROTECTION & INDICATION

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ABSTRACT

In this paper we have focused on developing an enhancement of the vehicle alarm security system. The safety of vehicles fuel is extremely essential for public so this project came to our notice due to the alarming rate at which vehicles fuel are being stolen in our country. Today's world need digital techniques for measurement of any quantity conventional fuel meter are Analog so that we trying to make it digitized to show the fuel value digitally. In our project we show the amount of fuel Present in fuel tank digitally i.e. 1 liter, 1.5 liter, 2 liter etc. Also fuel theft is measure problem in all over world. In our project if fuel gets theft then text message will send to owner of bike also buzzer makes noise so that owner of bike get aware. In traditional vehicle system such kind of system not implemented like display fuel availability digitally & fuel Theft of bike can be avoided

KEYWORDS: Ultrasonic Sensor, Liquid Level Sensor, ADC Microcontroller, LCD Display, Buzzer or Siren, GSM Modem

INTRODUCTION

In the present days vehicle fuel theft is one of the main concerns of many bike owners and car owners. Many times we have heard or some of us have already faced that petrol from their bike or cars has been stolen. Main intention of this detector is to avoid such situation. A simple, cost-effective solution is proposed here, by which vehicles fuel security is maintained while the vehicle owner is anywhere across the globe. This model detector has a GSM modem which sends SMS to owner of vehicle when there is fuel theft going on. GSM based Vehicle Fuel Theft Detection System with SMS indication has application in Car, Bikes and all other vehicles. While implementing the model, we have used telecommunication, to be specific; SMS is integrated or improvised to the present vehicle security system.

ULTRASONIC SENSOR



Fig.No.1

The measuring method employed by ultrasonic sensors has been viewed as an excessively complex technology, and only used as a “last resort” ... as a solution for particularly difficult applications. Those times have long since passed! Ultrasonic sensors have proven their reliability and endurance in virtually all industrial sectors. In industrial applications, ultrasonic sensors are characterized by their reliability and outstanding versatility. Ultrasonic sensors can be used to solve even the most complex tasks involving object detection or level measurement with millimetre precision, because their measuring method works reliably under almost all conditions.

No other measuring method can be successfully put to use on such a wide scale and in so many different applications. The devices are extremely robust, making them suitable for even the toughest conditions. The sensor surface cleans itself through vibration, and that is not the only reason why the sensor is insensitive to dirt. The physical principle—the propagation of sound—works, with a few exceptions

REFLECTION MODE

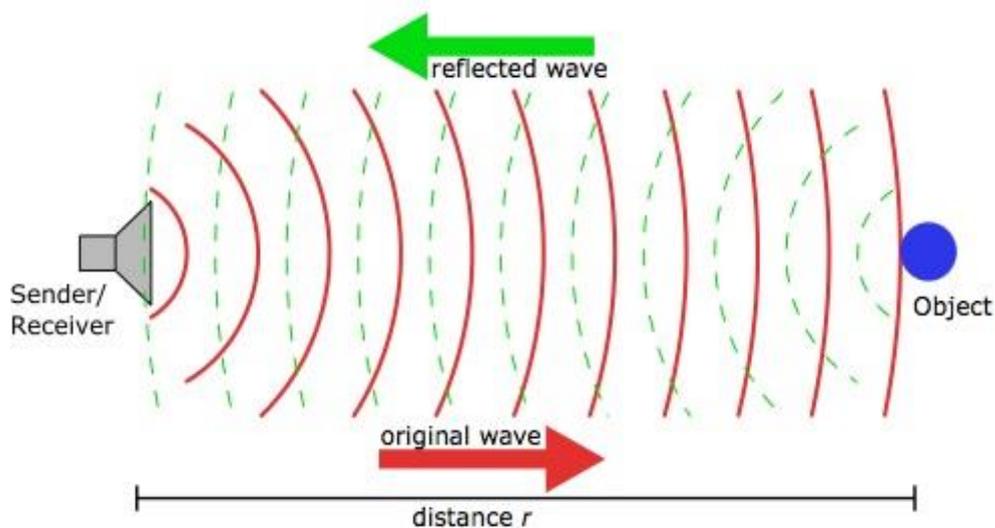


Fig.No.2

In reflection mode (also known as “echo ranging”), an ultrasonic transmitter emits a short burst of sound in a particular direction. The pulse bounces off a target and returns to the receiver after a time interval t . The receiver records the length of this time interval, and calculates the distance travelled r based on the speed of sound.

$$C: r = c * t^2$$

Very often, separate transmitting and receiving transducers are placed immediately next to each other, housed as a single unit. (The PING)) Range Finder, Omega flowmeter and Megaton high-accuracy sensor below are all designed this way.) In these cases, the distance calculated will be twice the distance from the sensor to the target. Using proper coordination, a single transducer can be used for both emitting the pulse and receiving the echo. Note that it takes time for the transducer to change modes, presenting a challenge to short-distance measurement.

BLUETOOTH

Bluetooth works by the simple principle of sending and receiving data in the form of radio waves. Every Bluetooth enabled device has a card-like attachment known as the Bluetooth adapter. It is this Bluetooth adapter that sends and receives data. A Bluetooth adapter has a particular range of connection. One electronic adaptor can notice another Bluetooth device only if the second device is present within the range of the first device. When they are within the range, they can strike up a connection between themselves. Striking up of connection between two Bluetooth devices are known as pairing of devices.

MICROCONTROLLER (AT89C51)

The AT89C51 is a low-power, high-performance CMOS 8-bit microcomputer with 4 Kbytes of Flash Programmable and Erasable Read Only Memory (PEROM). The device is manufactured using Atmel's high density non-volatile memory technology and is compatible with the industry standard MCS-51 instruction set and pin out. The on-chip Flash allows the program memory to be reprogrammed in-system or by a conventional non-volatile memory programmer. By combining a versatile 8-bit CPU with Flash on a monolithic chip, the Atmel AT89C51 is a powerful microcomputer which provides a highly flexible and cost effective solution to many embedded control applications. The AT89C51 provides the Following standard features: 4 Kbytes of Flash, 128 bytes of RAM, 32 I/O lines, two 16-bit timer/counters, five vector two-level interrupt architecture, a full duplex serial port, on-chip oscillator and clock circuitry.

RESULTS

In this project we have proposed a system through wireless transmit notices on a using Wi-Fi can pass information for about litre we can get the result as per owner order during the filling fuel in the tank

Table no.1 Result obtained without sensor

Sr.No	Fuel Tank Volume (cm)	Fuel Measured (ml)	Theft (ml)
1	1 cm	900	100
2	2 cm	1900	100

Table no.2 Result with sensor

Sr.No	Fuel Tank volume (cm)	Fuel measured (ml)
1	1 cm	1000
2	2 cm	2000

FUTURE SCOPE

We can provide voice feedback system. We can add vibration sensor to the car or bike. In case when the bike or car locked and somebody is try to open the door or open the bike lock then vibration will be produced and vibration sensor can sense this vibrations and turn on the buzzer.

CONCLUSION

This project minimizes the fuel theft in vehicle very easily. Helps in saving cost and also help full for public. Now a day's fuel price is increases so to detect fuel theft.

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