INTELIGENT POLLUTION CONTROL SYSTEM

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Abstract

In our daily life vehicles usage was increased. Due to that human effort was decreased drastically. We know that vehicles work with combustion engine. Which uses petrol and desel etc. it releases dangerous CO to environment? It leads to negative efforts or people and environment

So to overcome this ind of problem we designed intelligent pollution control system. it detects amount of CO in vehicles. If it reaches to maximum or dangerous limit automatically combustion engines stops working. We will get sound through buzzer and simultaneously with a LED indication. .

Keywords : **Carbon monoxide, pollution control system.**

I. INTRODUCTION:

Carbon monoxide releases toxic gases to the environment which leads health issues. So in this paper we design to detect amount of CO thereby we can prevent this issue in environment.

This paper contains overview of existing system as well as proposed system. In proposed system we explained working of intelligent pollution control system, its advantages and applications

II OVERVIEW OF EXISTING SYSTEMS:

With air pollution getting severe with every passing day, it presents a difficult preposition to the general public and specifically the persons who are suffering from respiratory disorders. [1] There is a need of system which not only monitors the air quality but also provides an alarm in terms of an estimate of air quality in advance through notification. We conclude that we have been able to design a system which has the capability to sense the values of the air pollutants and transmit these values to the cloud and record it.

To monitor [2] the air pollution with the wireless sensor network has several benefits over the traditional environment. Wireless sensor network has its own advantage such as low cost, easy to setup and provide a real time pollutant data. Monitoring stations which are used to analyze and collect the real time pollutant data from the road traffic emission. To monitor the pollution level from different area of glance is a difficult task and it requires a large infrastructure setup and proper management but if system can segment the pollution level as per the area so it can be better monitored and better solution can be provided.

Development of an IoT based Air Quality Monitoring System Using this air quality monitoring system [3] continuous monitoring of different environmental parameters such as PM2.5, PM10, sulphate (SOx), nitrate (NOx), ozone (O3), temperature and humidity is achieved, and user can monitor these parameters through a web application.

III. PROPOSED SYSTEM

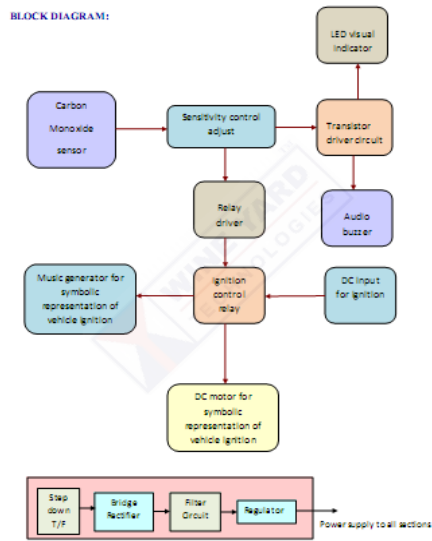Intelligent pollution control system contains following blocks which is shown in below Fig.1

Fig.1 Block Diagram of Intelligent Pollution Control System

Main Requirements of Intelligent Pollution Control System

- ▸ Power supply circuit.
- ▸ Carbon Monoxide Sensor.
- ▸ Transistor Driven Circuit.
- ▸ Relays.
- ▸ Buzzer.
- ▸ DC Motor
- ▸ LED

Here we are discussing about result, applications, and advantages of Intelligent pollution control system.
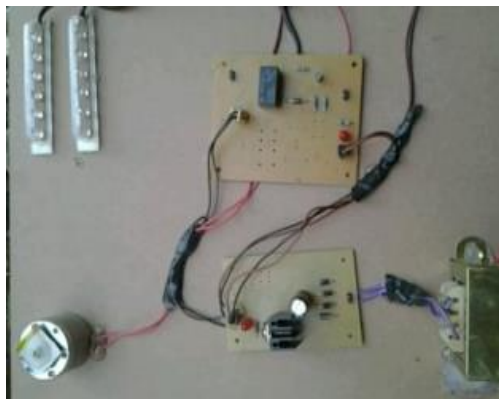
IV. WORKING OF THE PROPOSED SYSTEM

Fig.2 kit diagram for intelligent pollution control system

First this kit is connected to the main supply (230V A.C).then it is step down to 5V d.c supply. 230V A.C supply is given as input to the step down transformer then it is step down that voltage to some 18V A.C supply. Then it is given to the Bridge wave Rectifier. This converts A.C to Pulsating D.C. then this is given to the filter circuit. Here capacitive filter is used. So it converts that pulsating D.C to pure D.C. next this is connected to 7805 regulator. It produces our required 5V D.C supply.

Fig.2 showsa kit diagram for intelligent pollution control system. 5V D.C coming from power supply circuit is given to the all blocks present in the kit through the connectors. Transistor present in the relay circuit is on therefore relay is also in on condition. Then it drives the load present at output side i.e., motor starts running. Array of LED's are glowing. When amount of CO reached to a threshold limit then buzzer will activate through the transistor present in the sensor circuit it acts as a amplifier in that circuit thereby we get high sound through buzzer. Simultaneously transistor present in the relay circuit is off then relay is also off there by motor stops working after some time. LED'S glowing is also off.

V RESULTS AND DISCUSSIONS:

In this section we are discussing about advantages, applications and conclusion of intelligent pollution control system

ADVANTAGES

- ➢ Highly sensitive
- ➢ Fit and Forget system
- ➢ Low cost
- ➢ Simple and Reliable circuit
- ➢ Ease of operation
- ➢ Content of Pollution in environment can be reduced.
- ➢ Due to the implementation of this paper we can maintain the co level in atmosphere which can reduce adverse effects on environment and on human life.
- ➢ Vehicle can work smoothly and no need to pay challans to pollution control board
- ➢ Check and repair exhaust system leaks.
- ➢ Long life and low cost

APPLICATIONS

- ➢ Automobiles.
- ➢ Industrial and mining applications.
- ➢ Carbon monoxide monitoring and leakage detection.

CONCLUSION

The paper "INTELLIGENT POLLUTION CONTROL SYSTEM "is implemented successfully for automotives and industrial application for reducing and maintaining CO level which is harmful for ecosystem and which is affordable from small to large scale industries for maintaining pollution norms. The paper is implemented through a DC motor for symbolic representation of vehicle and user get alert through a beep sound and if the content of co is more automatically vehicle gets stopped with a music generator system.

FUTURE ENHANCEMENT

In Future by using this intelligent pollution control system pollutant in our environment is reduced and vehicle can work smoothly and no need to pay challanas to pollution control board.

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