

Self-Regulating High Beam and Low beam of Straight Forward Vehicles Together with Seat Belt and Alcohol Detector

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Abstract: People are using private vehicles more than using of public vehicles. In India, private vehicles using 30% out of 48% Indians, rest of them 18% using public vehicles. India's people around 1, 37,000 die due to road accidents and more than 1, 50,000 killed due to impact between vehicles. Many accidents occur due to drunken, high beam of upfront vehicles and by not wearing seat belts. So, the road accidents 65% can be reduced by following these effects. We have to make a system which can detects the seat belt and alcohol detector drinking of driver to reduce this. The vehicles should be started when driver wearing the seat belt and alcohol test. If the upfront vehicle is irritating the driver at high beam, so he can simply turn into the high beam to low beam by 2 times dipping and dimming the light of his vehicle.

Keywords: IR technology, AHLAS, MQ4 gas sensors

1. Introduction

Now a day's population world, people can't live without being frightened of road accidents, but they can survive without food. We know, that world's second populated country is India. Because of the highly dense vehicles, people are fearless of accident on road. The vehicle should be start after when checking alcohol test and buckled up the seat belt. When vehicle comes at high beam and when it comes into the range of opposite vehicle from within change into high beam to low beam. Life of a person is much important than money.

2. Objective

- For people's safety, the system can be executed in both the small vehicles and larger vehicles.
- This system is smaller in size, simple and cheaper.
- The seat belt detector is embedded (fixed) inside the buckle and the alcohol detector is assembled near steering.
- The high beam and low beam detector is fixed near head lamp.
- The seat belt which the relay is connected between battery and spark plug disconnects the battery connection to spark plug for two seconds when the driver is drunk or has loosened the seat belt.

- The high beam of straight forward vehicle is changed into low beam for 10 second and the driver is disconnected for 10 seconds control over the head lamp, when the straight forward vehicle comes in range of the opposite vehicle.

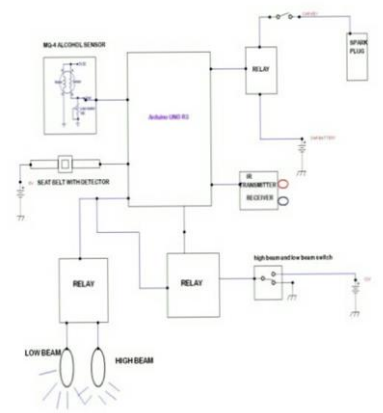


Fig. 1. AHLAS circuit diagram

A. Procedure

There is no other system has been developed which does not consist of seat belt detector and does not allow the driver to start the vehicle or to control the vehicle or to control the high beam and low beam of the straight forward vehicles.

- The main objective of this device is to overcome these disadvantages and provide a solution which is self-triggered.
- In figure shows the block diagram of automatic high beam and low beam of straight forward vehicle along with alcohol and seat belt detector four wheeler (AHLAS).
- The seat belt which the relay is connected between battery and spark plug disconnects the battery connection to spark plug for two second when the driver is drunk or has loosened the seat belt.
- The signal to range of IR transmitting , so if straight forward vehicles comes in its IR range, then the

straight forward vehicle change it high beam to low beam.

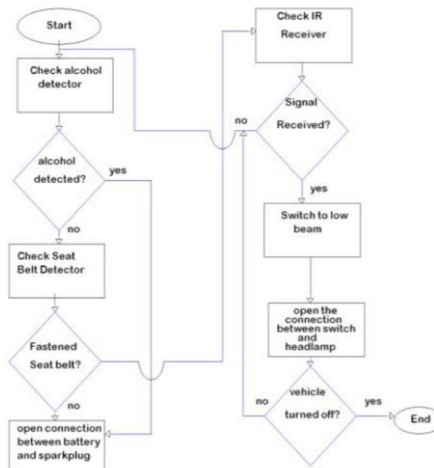


Fig. 2. AHLAS flow diagram

3. Result

AHLAS is a device which is used to detect alcohol and seat belt of the vehicle by an alcohol detector and seat belt detector. The alcohol detector detects and gives the response signal to microcontroller, when driver is drunk. The connection opens off battery to the spark plug through relay in controller.

After detecting the seat belt or alcohol test a single relay is used to have control over spark plug.

This transmitter is always work when the straight forward vehicle comes closer to opposite direction vehicle to transmit signal for lower or dim erring the head lamp. This receiver receives signal from straight forward vehicle then gives signal controller.

Controller how it works:

- It switches the high beam to the low beam of vehicle.
- The controller opens the connection of the high beam switches of vehicle to the head lamp, so whenever driver tries to switch the low beam to high beam, it does not work or operate until ten seconds after reception of IR signals.

4. Conclusion

The aim of this project is to provide reliable and when driver is drunken or has not buckled the seat belt himself, the contact between battery and car key opens the connection of battery to the spark plug of the relay. Driver can't be able to switch high

beam instantly, if straight forward vehicle come close to the opposite vehicle. For better feature in vehicle, automobile companies have to assemble the GPS (Graphical Position System) in all vehicles. So it gives the exact location and also embedded GPS module system in it, to send messages to the police station of the traffic.

A. Limitations

- IR technology is used to detect an object.
- The opposite object must have to carry an IR transmitter, so that IR receiver of receiving device will detect the opposite object.
- A proximity sensor is a sensor able to detect the presence of nearby object without any physical contact.
- Proximity sensor can be used instead of IR technology.
- A proximity sensor is a sensor able to detect the presence of nearby object without any physical contact.
- In that case opposite object doesn't need to carry transmitting device.

B. Advantages

- The device components and making cost is low.
- The device parts are available in the market.
- This device consist high light intensity through LDR can detect high beamed light.
- If any object through IR technology it can also be detect.
- This device has dual operation capability through LDR and IR at same time which can give signal to relay switch.
- The device has good efficiency with less time deduction and effort in the best possible manner.
- Efficiency: The device performs in the best possible manner with least waste of time and effort.

References

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