

LPG LEAKAGE DETECTION SYSTEM USING GPS AND GSM TECHNOLOGY

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Abstract: The explosion due to gas leakage has become a serious problem in our country's daily activities. Now the world is evolving with technology, so it is necessary to use technology, if possible, in every case. LPG gas to resolve the accident occurred we can prevent it through technology. The system is based on a microcontroller, which uses gas sensors as well as GSM, display and buzzer. It is designed for LPG Gas Leakage Monitoring and Alert System using MQ6 sensor. This circuit contains MQ6 gas sensor, microcontroller, buzzer, display and GSM. The sensor will detect the gas leakage and transmit the information to the microcontroller. On the basis of those information, the microcontroller makes a decision and then displays a warning message on the display and the message will be sent to the user via GSM. The uses of the microcontroller provide a suitable platform for implementing an embedded control system and it is possible to modify it to meet our future requirements easily and quickly.

Keywords: LPG, MQ6 Sensor, Microcontroller, Buzzer, GPS

1. INTRODUCTION

LPG Gas leaks have been increased from 0.72% of all kitchen accidents to 10.74% of all the kitchen accidents. The small LPG cylinder of weight 5kg in which the burner is located immediately over the cylinder without using a rubber tube is seen to be safer than the one which uses a rubber pipe as this subway has the hazards of getting cracked which in turn can make way to leakage. A Simple Gas leak detector is a simple device which is used to detect the leakage of gas and if the gas leak occurs, an equivalent message is conveyed by the means of an LCD screen and a buzzer and with the help of the GSM module it is capable to broadcast messages to the stakeholders about the LPG leak. GPS model is used to detect the exact location of LPG leakage.

This device is at its initial level of development and with modification in future this device will also ensure better safety and surety. The gas leak detector device can find application not only at residential homes but also it is applicable to hotels, restaurants and even in industries where LPG gas is used for some other purposes.

2. LITERATURE REVIEW

In this paper presentation we have studied, Gas leakage is a major problem with industrial sector, residential premises and gas-powered vehicles like CNG (compressed natural gas) buses, cars. One of the preventive methods to stop accident associated with the gas leakage is to install gas leakage detection kit at vulnerable places. The aim of this paper is to present such a design that can automatically detect and stop gas leakage in vulnerable premises. In particular gas sensor has been used which has high sensitivity for propane (C₃H₈) and butane (C₄H₁₀). Gas leakage system consists of GSM module, which warns by sending SMS. This paper provides the design approach on both software and hardware [1].

The objective of this work is to present the design automatic alarming system, which can detect liquefied petroleum gas leakage in various premises. In particular, the