

AUTOMATIC VALVE SHUTDOWN FOR GAS LEAKAGE

ABSTRACT

In today's world the death rate of the gas leak accidents is high in India. As now, everyone use only LPG gas cylinders for the cooking purpose, the increase in the usage of gas also increased the number of accidents due to the gas cylinder. In India, about 60% of the gas exploding accidents has the sad ending of loss of human life. The problem with these cylinders is that they suddenly get off without any intimation. The another big problem in gas cylinders is that when it leaks the whole house get burst resulting in heavy loss in life and wealth. In particular, it is only ladies and children who become a prey for this type of accidents.

Our Solution will surely be beneficial and reduce the death rate to larger extent when installed properly. The preventive measures are taken to avoid exploding of gas cylinders. The information is also passed to the outside world to take preventive measures from their side. The death rates are reduced to the greater extent by this project. The gas leaked is sensed by the sensor and immediately shutdowns the valve. The intimation of buzzer to the persons inside the home and sending a sms to the outside persons so that they can take necessary actions. The major problem to be solved is the reduction in the death rate of the precious human. Our solution pays well to the current environment.

The control board used in this project consists of Gas sensor, ARM processor and a Stepper motor. The Sensor is used to sense the domestic LPG. The buzzer is used to indicate gas leakage, So that the people are alerted not to on any switches. The ARM processor drives the stepper motor to close the valve manually. The final circuit results very compact in dimensions, cost effective but at the same time very flexible in applications and functionalities. In fact the use of ARM processor makes easy the possibility of the project to be modified and adapted to several sensor types and application areas. In the prototype that we are going to present, the hardware and ARM processor firmware have been optimized to implement a smart LPG gas buzzer for domestic or automotive use.