

ABSTRACT

Lately a lot of incidents that occur due to contamination of the air in an enclosed space vehicles. The incident may be bad to death. Once in the analysis, one cause is air pollution because of toxic gases. The presence of toxic gases can reduces air quality in a room, for it is needed a tool that can detect the state of the air. As antisipasin first if in an enclosed indoor air quality is poor, then there must be a change of air quickly. Substitution air may be opening the door automatically.

At the end of the project has been designed and realized a prototype of a tool that can mentukan indoor air quality as well as the automatic power windows. This tool uses a microcontroller as the central controller and sensor General Water Quality (TGS 2600) as a detector of air quality. In this tool there is also a power supply circuit as a provider of electrical energy required system and there is also a series relay as a switch for DC motors. The way the device works is by detecting the air with the sensor and the results of the sensor output will be processed by the microcontroller and displayed using the LCD. Furthermore, if the detected air quality in enclosed vehicle space is not good or bad, in anticipation of the first then the power windows will automatically open. Power window is moved by a DC motor.

This prototype device can work automatically, both for detection of air quality as well as to open the power windows. In clean air conditions, Vout sensor TGS 2600 is at voltage 0.2 to 1.2 V, while in a state of gas detected at measurable $V_{out} > 1.2$ V depending on the gas density. On the LCD can be read how the quality of the indoor air.

Keywords: Microcontroller, General Water Quality (TGS 2600), LCD, Power Window, toxic gas.