

ABSTRACT

A cigarette contains approximately more than 4000 elements and at least 200 of them are dangerous for health. The main poisons in a cigarette are Carbon Monoxide (CO), Nicotine, Tar, Hydrogen Cyanide (HCN), Hydrogen Sulfide, Formic Acid, and many others. Other wise, a cigarette also contains some other toxic substances.

This Final Project is made to make an in-room cigarette smoke concentration gauge circuit. This circuit uses AF-30 sensor as the input block to detect the cigarette smoke in a room. This sensor has a high level of sensitivity to two kinds of gases, they are Hydrogen and Ethanol which are considered as the representation of the gases in cigarette smoke. The process block uses microcontroller AVR ATmega 8535 and the output block uses LCD which will show how much the amount of cigarette smoke in that room.

When the smoke is detected, the sensor's resistance will decrease, and it will increase again if the concentration of the detected smoke decreases. When the thick smoke is detected, the value of measured smoke is $\pm 492.7\text{ppm}$ and it will decrease proportional to the descent of the detected smoke.

Key words : cigarette smoke, microcontroller, LCD