

FINAL PROJECT

Alcoholmeter at Liquid Using MQ-3 Sensor Based Microcontroller ATmega8

By: Ridha Putra Widyaka

09507131033

ABSTRACT

The objective of making this final project is to realize the design of hardware, software, and performance the alcoholmeter device at liquid using MQ-3 sensor based microcontroller ATmega8.

Design of hardware this device consists of: 1). Type alcohol gas sensor MQ-3, as detection of alcohol vapor through the liquid. 2). Minimum system microcontroller ATmega8, as the processing of the sensor output analog data into digital data. 3). 16x2 text LCD as a viewer alcohol content in units of percent (%). 4). Indicator LED timer as sensor heating timer duration, in order to produce stable data. The design of software this device using programming C language CodeVisionAVR. ADC programming equation obtained $y = 1,269x^4 - 7,227x^3 + 15,588x^2 - 19,143x + 6,731$.

From the overall results of the testing device, the device is able to measure the alcohol content of the liquid between 0-40%. From initial testing of liquid samples with different levels of alcohol, this device still has an average error of 0,48%.

Keywords: Alcohol, MQ-3, ATmega8