

ABSTRACT

M. Kamal Khabibi. Carbon monoxide gas monitoring device via web Mini- Thesis, Jakarta Electronic Engineering Vocational Education Program, Faculty of Engineering, Universitas Negeri Jakarta, 2018. Supervisor: Drs. Wisnu Djatmiko, M.T and Dr. Muhmmad Yusro, M.T, Ph.D.

This study aims to create a device that measures carbon monoxide gas content in the air, the results obtained can be viewed on a web in real time with a reading range of 0-100 ppm. The research was conducted in electronics laboratory, 4th floor of Building L Faculty of Engineering, Jakarta State University from July 2017 until July 2018.

The research method used is engineering method with development model through 4 steps, namely requirement analysis, planning and design, development, testing, and improvement.

Carbon monoxide gas monitoring device via web is divided into 3 main subsystems, namely: input, process, and output. The input subsystem consists of MQ-7 sensor, which detects CO gas and generates electrical waves which will then be processed by the process subsystem, ie Node Mcu. In the process subsystem, data generated in the form of ADC signal is converted into a voltage that initiates to drive the output subsystem consisting of LCD display, Buzzer, and the web. The output subsystem will display the monitoring data of the CO gas content in ppm. In addition, the buzzer will buzz when the result shows that the CO gas readings have exceeded the limit of 80 ppm.

The results of research produce a MQ-7 sensor module. It has been calibrated using the formula $y = 114,54 x^{-1,683}$ obtained regression (trendline) power. Calibration sensors use gas CO grading 100 ppm showed a value of 3,11 % Error

Keywords : Carbon Monoxide (CO) gas, MicrocontrollerNode Mcu,MQ-7 Sensors, IoT.