

ABSTRACT

Various alternative energy sources have been developed in an effort to overcome the energy crisis. One alternative energy source that is widely developed is biogas. Biogas is a gas fuel that can be updated and produced by anaerobic fermentation from organic materials with the help of bacteria. One of the gases contained in biogas products is methane gas, so that a methane gas concentration meter is needed in real time. In this study a methane gas concentration measurement system was made using the TGS2611 sensor as a detector mounted on a chamber with a volume of 3 liters, the system calibrated using an M40 type calibrator. The results showed that the system was calibrated following the formula $0.004X8.5$ and could measure the concentration of methane gas in the range 0% - 15% LEL which is equivalent to 0 - 7500 ppm. The system that has been made has an average error of 7.96% with accuracy $\pm 7,96\%$ and is able to measure gas concentration continuously.