ABSTRACT

Medical infusion device serves to provide drugs or fluids that are carried out directly through a blood vessel. The occurrence of occlusion in the infusion device causes the incoming drug fluid does not flow constantly and pressure is formed on the infusion tube. This infusion device is used for a long time, there will be a change in the precision of the value and calibration must be carried out at least once a year. The purpose of this research is to make the Infusion Device Analyzer design appear Graphic with Occlusion Parameters and Bluetooth Communication in Real Time. This study uses a solenoid valve for pressure simulation. The allowable occlusion limit is <20 Psi. The SKU 237545 sensor detects the water pressure that is blocked by the solenoid valve. Then the data will be displayed on the PARALAX Daq using bluetooth. The Application will display real time occlusion data, data averages, instant values, along with graphs in real time. The results of the Infusion Device Analyzer design when tested using the Syringe Pump TOP 5300 got an average of 0.68 Psi. Meanwhile, when the Infusion Device Analyzer design was tested using the Infusion Pump 3300, it got an average of 0.73 Psi. The results showed that the occlusion compared with the Fluke IDA 4 had a mean error of 0.7 Psi. From these results it can be concluded that this IDA design can be used for calibration so that it can be seen the feasibility of an infusion pump or syringe pump.

Kata Kunci : Calibration, Occlusion, PLX Daq