

ABSTRACT

In the medical world, infusion is the most frequently used tool, the function of the infusion itself is to provide fluids to patients on a regular basis. Intravenous therapy, gravity-driven micro-drip infusion sets allow control of drug dosing by adjusting drops per minute. In short, the droplet rate is for a set, which results in a constant decrease in size. At present, the falling speed control mostly adopts the seconds on the watch to calculate the desired number of drops, and controls it by rotating the infusion bottle roller clamp. Because manually, the number of drops that come out is not right. The purpose of this research is to design an automatic infusion equipped with air bubble detection. This study uses an optocoupler sensor to read the droplets contained in the drip chamber and uses a DC motor (stepper nema 17) to move the roller clamp. Then the drip results for 1 minute will be displayed on the TFT LCD in real time. The results of this module design when tested using the Fluke Type 4 Plus infusion device analyzer (IDA) has the largest error of 1.76. From these results, it can be concluded that the design of this final project module can be used properly, seen from the error results obtained by the tool module.

Keyword : Automatic, Infusion, DC Motor, Optocoupler Sensor