ABSTRACT

Babies need temperatures that are like inside the mother's womb, which is between 35°C – 37°C. The problem in previous research is that in every temperature setting the even distribution at the temperature is not evenly distributed on the bed, when it reaches the temperature setting the heater continues to turn on so that the bed gets hotter. The purpose of this study is to make an infant warmer with a temperature setting of 35^0C - 37^0C that uses PID control to stabilize the temperature and ensure the spread of heat on the bed evenly, then the addition of skin temperature aims to make nurses know what the baby's body temperature is when observing. The contribution of this research is that the control system can spread heat on the bed evenly. This method uses an Arduino microcontroller to function as a data processor, then a DS18B20 skin sensor to read skin temperature, and an infant warmer temperature sensor using LM35 as a PID control system. The results of the research in making the tool module, comparing the measurement results to the comparison with the incu analyzer, the smallest error was obtained at the setting temperature of 37^0C with an error value of 0% on the T5 measurement, the difference in skin temperature to the thermometer was 0.1^0C. The results showed that the temperature spread on the module had different error values. So that this research can be implemented on the PID control infant warmer system to improve performance on infant temperature stability can be used for the community.

Keywords: Infant warmer, LM35, DS18B20, PID, 7 Segment