ABSTRACT

Monitoring the health status of babies is very important to detect any health problems, especially in premature babies who are treated in a baby incubator. As a result of being born early, the condition of the baby's body such as the lungs, skin, respiratory system, and digestive system is not yet fully developed, it needs continuous monitoring. The making of this tool aims to monitor the baby's body temperature and baby's heart rate which is in the baby incubator. The contribution in this research is a system that can continuously monitor vital conditions in newborn baby. So that the monitoring tool is more efficient to use, then it is made a tool with monitoring in real time and monitoring the monitor. The design of this tool uses an LM35 sensor for the baby's body temperature and a SEN11574 sensor for the baby's heart rate, then the data processing results from the sensor are done with Arduino, and the results of the data from Arduino will be displayed wirelessly by HC-05 on the PC. Measurement of the temperature value using a thermometer, and the value of the heart rate using a Pulse Oximeter. After measuring the temperature and BPM in respondents, the results obtained in module 1 with a difference of value of 2-5 for BPM and $0,3\,^oC$ – $1\,^oC$ for temperature and in module 2 with a difference of value of 2-4 for BPM and $0,3\,^oC$ – $1\,^oC$. The results of this study can be implemented in newborns who need to be continuously monitored by a remote system.

Keywords: Monitoring, BPM, SEN11574, Temperature, LM35, HC-05, Arduino