ABSTRACT

The babies who born prematurely must be treated with an incubator, because adjustment of the body was not unstable and easy to suffer from cold. The baby incubator on the market usually using on-off control on the heating system to controlled temperature in the incubator. Certainly, this process needed more power to turn on and turn off heater continuously. By expected using fuzzy logic to controlled temperature, it can resolve the problem which happened on on-off controlled to baby incubator. This final project using a modul themoelectris as a incubator heater element.

By using termoelectric, the electrical energy can be modified into a heat energy, so that can be used as incubator heater. The temperatur on incubator can be measured by SHT-11 sensor and the result from the sensor used as input for microcontroller. Beside a sensor, we also using set point to get the temperature and humidity that we want. With using fuzzy logic, it can be generated an absolute output.

In this final project, the baby incubator can be generated a stable temperature according to the setpoint which's 32ºC, 33ºC, 34ºC, 35ºC and also the humidity on 55% until 65% RH. The results are consuming 24,959 Wh on setpoint 32ºC, 25,708 Wh on setpoint 33C, 28,809 Wh on setpoint 34C and 31,191Wh on setpoint 35C.

keywords : baby incubator, thermoelectric module, SHT-11