Temperature Distribution Control for Baby Incubator System Using Arduino AT Mega 2560

Authors : W. Widhiada, D. N. K. P. Negara, P. A. Suryawan

Abstract : The technological advances in the field of health to be very important, especially on the safety of the baby. In this case a lot of premature infants death caused by poorly managed health facilities. Mostly the death of premature baby caused by bacteria since the temperature around the baby is not normal. Related to this, the incubator equipment needs to be important, especially in how to control the temperature in incubator. On/Off controls is used to regulate the temperature distribution in the incubator so that the desired temperature is 36 °C to stay awake and stable. The authors have been observed and analyzed the data to determine the temperature distribution in the incubator using program of MATLAB/Simulink. The output temperature distribution is obtained at 36 °C in 400 seconds using an Arduino AT 2560. This incubator is able to maintain an ambient temperature and maintain the baby's body temperature within normal limits and keep the moisture in the air in accordance with the limit values required in infant incubator.

Keywords : on/off control, distribution temperature, Arduino AT 2560, baby incubator