

ABSTRACT

Baby incubator constitutes one of electromedical equipment who is utilized to give protection to newborn baby premature or having low of body mass by give temperature according to mother content condition. Newborn baby also have jeopardy on its heartbeat. The heartbeat of normal baby is which 120 until with 160 BPM. Meanwhile that baby have heartbeat under 100 BPM are named bradycardia conversely if baby has heartbeats upon 160 BPM are named tachycardia. There are two parameters at this baby incubator's tool which is functioning temperature sensor as controller of temperature on hall and finger is functioning censored for BPM'S measurement. Baby incubator's ways of working is subject to be look after that baby body temperature stable regular. Baby incubator's operation trick is by temperature arrangement where temperature elect be adjusted with baby condition.

Remember the importance for this tool to give protection to baby and to know baby jeopardy experience abnormality on its heart, therefore at makes baby incubator's modification provided with by temperature arrangement and BPM. The problem on this tool before doing modification is not mark sense temperature setting on tool , so the room temperature can't preconditioned according to baby requirement.

With limitation on baby incubator's tool that has no temperature arrangement be done modifies baby incubator was provided with by arrangement temperature and BPM gets digital basic was used ADC 7107 to showed voltage of temperature sensor and to showed BPM use counter with 74192 and 74LS47 as decoder to seven segment.

Base temperature measurement result 32 °C by fault (% error) as big as 0.046%, temperature measurement 34 °C by fault(% error) as big as 0,097%, and temperature measurement 36 °C by fault(% error) as big as 0.803%.

Of count result glosses over(% error) upon gets to be concluded that that fault still in tolerance bounds and deep this tool makings corresponded to that planning got made by baby incubator's tool that provided with by temperature arrangement and BPM for baby.

Key word : *Baby Incubator, Temperature, BPM, The Finger sensor, LM 35*