

Development of the low cost hot plate temperature controller using Arduino Uno R3.

Monday, 21 May 2018 18:30 (15 minutes)

The low-cost hot plate temperature controller was developed using Arduino Uno R3 microcontroller board. The controller composed of the Arduino microcontroller which was the controller main part, a temperature sensor part and a 7-displays part for monitoring temperature values. The K- type thermocouple connected to MAX31850 IC was established for a temperature sensor. The 4-digit 7 segment display was used for temperature monitoring. The controller program consists of measurement, display and controls the PID parameters was developed in Arduino IDE. The hot plate which has 24-ohm heater wire was applied to this experiment. The result has shown that the temperature in the range of 25-500 degree Celsius was controlled with the resolution of 0.25 degree Celsius. Using the trial and error method for the PID parameter varied the target temperature can be reached with the maximum error was 3 degree Celsius.

Primary authors: HERNMEK, Pisitpong; THEDSAKHULWONG, Amorn

Presenter: HERNMEK, Pisitpong

Session Classification: A08: Instrument (Poster)

Track Classification: Instrumentation, Metrology and Standards