COMPARATIVE TEMPERATURE MEASUREMENT SYSTEM USING MICROCONTROLLER

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Abstract

Nowadays, people use automatic system to reduce their energy and time. The application of comparative temperature measurement systemis using the mechanism of PID (proportional integral derivative) controller.The aim of this system is to automatically control the temperature of water in PID control system and control the DC motor pump speed with PWM. Controlling the PWM duty cycleisequivalent to controlling the motor terminal voltage, which in turn adjusts directly the motor speed. The purpose is to facilitate heating system of a specified temperature and to retain it at that temperature in a control manner. This system presents the low cost and flexible system for controlling the water temperature.The Arduino, one of the best ways for precision control with low cost, easy to use and compactible with open source operating system, is used as a microcontroller in this system.