

Design of a temperature control circuit using PID algorithm

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Abstract: This topic focuses on designing and implementing an automatic control system for a thermal furnace by applying the PID algorithm. The research background addresses the necessity of an efficient solution for furnace temperature control to optimize productivity and save energy. The objective is to build an electronic circuit capable of self-adjustment to ensure stable and accurate temperature levels. The methodology includes studying PID theory, system design, and conducting practical experiments on the thermal furnace. The expected results from this topic will contribute to improving the operational performance of thermal furnaces in industrial and manufacturing applications.

Keywords: PID control system, Thermal furnace, Self-adjusting electronic circuit