

# **Design of a temperature monitoring and control model for a thermal furnace using PID algorithm**

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**Abstract:** This topic focuses on designing and implementing a temperature monitoring and control system for a heating furnace based on the PID algorithm. The topic selection aims to meet the practical requirements of optimizing production processes, minimizing errors, and increasing efficiency. The research method combines theory with experimentation to evaluate the system's effectiveness. The topic aims to contribute a new technological solution to the field of machinery manufacturing and production processes.

**Keywords:** Temperature monitoring, PID algorithm, Furnace temperature control, Production process optimization, Machine manufacturing