

Building a control system model for a robot arm to pick and classify products by height using PLC S7-1200.

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Abstract: In the context of increasing automation in production lines, developing a control system for a robotic arm to perform the task of picking and sorting products by height has become an urgent requirement. This project aims to build an efficient automation system based on the PLC S7-1200, utilizing object-oriented programming (OOP) and signal processing techniques to optimize the production process. The research methodology includes both theoretical aspects through requirement analysis and system design, as well as practical experimentation via real-world application deployment. The expected results will significantly contribute to enhancing productivity and reducing labor costs in the manufacturing industry.

Keywords: robot control system, PLC S7-1200, production automation, signal processing, object-oriented programming