

Building a computer interface circuit for a CNC drilling machine.

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Abstract: This topic focuses on developing a communication system between a computer and a CNC drilling machine, aiming to enhance operational efficiency and machining accuracy. The context is set by the increasing demand for product quality in the mechanical engineering industry, which requires improvements in automation control techniques. The objective is to design and implement an intelligent communication circuit that enables the CNC drilling machine to receive commands from a specialized software system and perform tasks efficiently as required. The research methodology includes analyzing current techniques, developing a theoretical model, and conducting practical tests on a machine prototype. The expected result is that the application of the new system will significantly improve productivity and product quality, while contributing to the development of Vietnam's automation industry.

Keywords: CNC drilling machine, Computer communication, Automatic control, Performance improvement, Product quality