Control and monitoring of three-phase asynchronous electric motor using PLC S7 1200 and ABB ACS 550 inverter

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Abstract: In the context of increasing demand for energy efficiency in industrial applications, the research and deployment of a control and monitoring system for three-phase asynchronous motors using the S7 1200 PLC combined with the ABB ACS 550 inverter has become essential. The project aims to build and optimize a comprehensive solution to control the performance, productivity, and reliability of electric motors. Through a combination of theoretical research and experimental implementation, the project is expected to provide industrial managers with a flexible and effective approach to reducing energy consumption while enhancing operational monitoring. The expected results of the project not only play a crucial role in technical improvement but also bring practical business value.

Keywords: electric motor, PLC S7 1200, ABB ACS 550 inverter, control system, energy monitoring