

Design of an AC voltage stabilizer using CMOS microcontroller AT89C51

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Abstract: In the context of the increasing demand for stable electricity usage, this topic focuses on designing an AC voltage stabilizer using the CMOS AT89C51 microcontroller. The objective of the work is to build and implement an efficient voltage stabilization system with automation and intelligent control capabilities by combining digital electronics theory with applied experimentation. The research method is based on technical analysis, electronic circuit design, and microcontroller programming to optimize the voltage stabilization process. The expected result is to provide a feasible solution for industrial power systems, while contributing to the development of automated electronic technology.

Keywords: AC voltage stabilizer, CMOS microcontroller AT89C51, Digital electronics technology