Abstract

Power factor correction is vital in present society. The two key benefits of power factor correction, which includes reduced power costs and higher system capacity. Implementation of Flexible AC Transmission Systems (FACTS) improves the power factor, power transfer capability and voltage stability. The shunt type of FACTS controller is used to either absorb or inject VARs into the system, thereby compensating reactive power. The design, fabrication and testing of microcontroller controlled Static VAR Compensator (SVC) consisting of Thyristor Controlled reactor (TCR) and Thyristor Switched Capacitor (TSC) are dealt with in this paper. A microcontroller is used to calculate the load displacement power factor (DPF) and for executing the fuzzy logic control scheme for TCR branch. The details of the design, fabrication, test results of Thyristor Controlled Reactor and Thyristor Switched Capacitor and their capability to improve their power factor performance are the main aim of this paper.

References

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