

## **AC-AC CONVERTER USING SWITCHED CAPACITOR PRINCIPLE**

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### **Abstract**

This paper proposes a new ac static powerconverter by using switches and capacitors, intended to replace the conventional autotransformer in commercial and residential applications. The operating principle, the converter analyses are described in this paper. The main advantages of this proposed ac-ac converter is the absence of magnetic elements, the stress voltages in all components being equal to half of the high-side voltage, the common reference between input and output voltages, , the ability to be bidirectional, the high efficiency, and the high power density. In order to demonstrate the performance of this converter, the configuration is simulated by using saber simulation software. The relevant simulated results are reported herein.

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**Keywords :** AC–AC converter, bidirectional, switchedcapacitor (SC).