

Project: Three phase rectifier with low current harmonics



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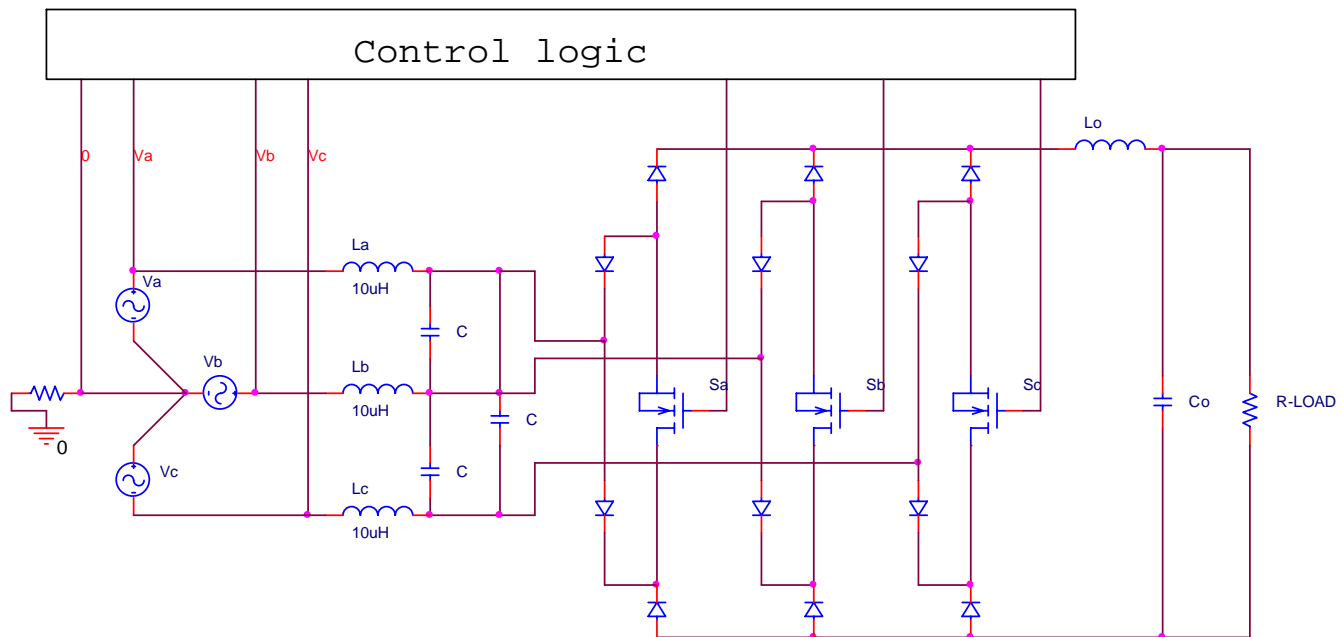
Abstract

High power DC current has many applications, primarily in heavy industry and, chemical and electrochemical plants.

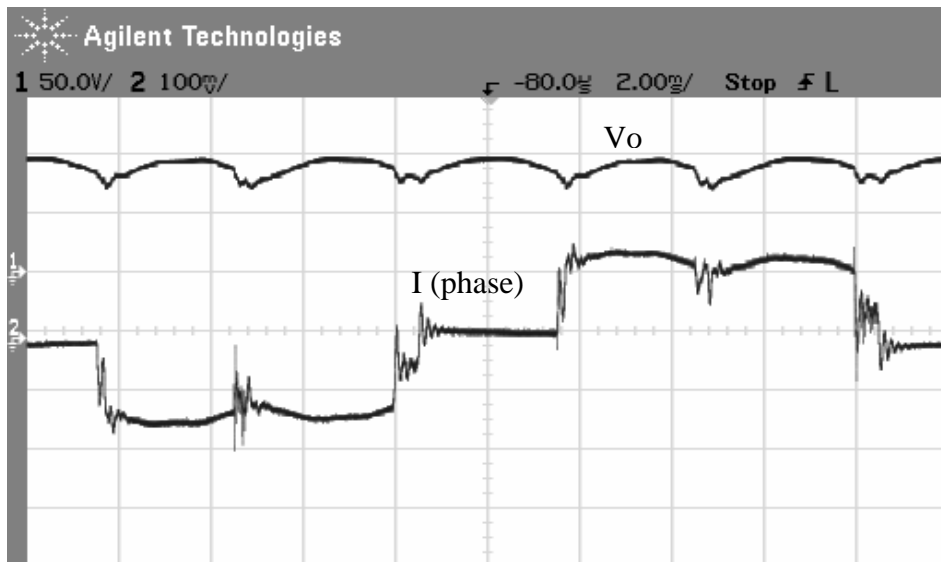
Temporary rectifiers use "static" diode bridges and experience great difficulty in achieving the modern standards of line harmonics. The objective of this project is to design and build a high power, three-phase rectifier with low input current harmonics. The primary innovation in this work is a new kind of three phase rectifying bridge, imbedded with high power switches, implementing a novel switching approach developed in this project.

Using the above-mentioned switching scheme, we will be able to "construct" an optimal form of line current and thus minimize its harmonics to fit the demands of the standard. Moreover, minimized line harmonics enable us to use smaller filters and so achieve a small and highly effective device.

Final Circuit Design



Experimental Results



רכיבי פורייה של זרם הכניסה

