

Scilab Manual for
Power Electronics and Drives Laboratory
by Prof Jesus Bobin
Electrical Engineering
St.xavier'S Catholic College Of Engineering¹

Solutions provided by
Prof Jesus Bobin
Electrical Engineering
St.xavier'S Catholic College Of Engineering

December 18, 2025

¹Funded by a grant from the National Mission on Education through ICT, <http://spoken-tutorial.org/NMEICT-Intro>. This Scilab Manual and Scilab codes written in it can be downloaded from the "Migrated Labs" section at the website <http://scilab.in>

Contents

| | |
|--|----|
| List of Scilab Solutions | 3 |
| 1 Simulation of single phase semiconverter | 5 |
| 2 Simulation of three phase semiconverter | 7 |
| 3 Simulation of single phase fullconverter | 10 |
| 4 Simulation of three phase fullconverter | 12 |
| 5 DC to DC converters | 15 |

List of Experiments

List of Figures

| | | |
|-----|--|----|
| 1.1 | Single Phase semi converter | 6 |
| 2.1 | three phase half converter with resistive load | 8 |
| 2.2 | three phase half converter with resistive load | 9 |
| 3.1 | Single Phase Fully Controlled Converter | 11 |
| 4.1 | three phase full converter with resistive load | 13 |
| 4.2 | three phase full converter with resistive load | 14 |
| 5.1 | Boost converter | 16 |

Experiment: 1

Simulation of single phase semiconverter

This code can be downloaded from the website www.scilab.in

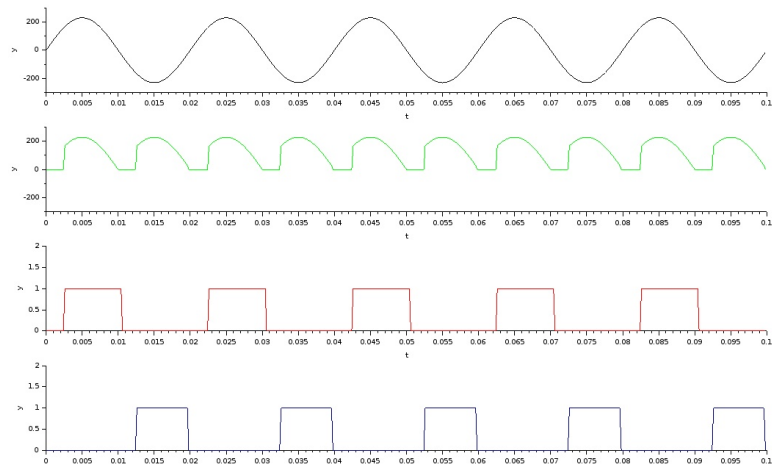


Figure 1.1: Single Phase semi converter

Experiment: 2

Simulation of three phase semiconverter

This code can be downloaded from the website www.scilab.in

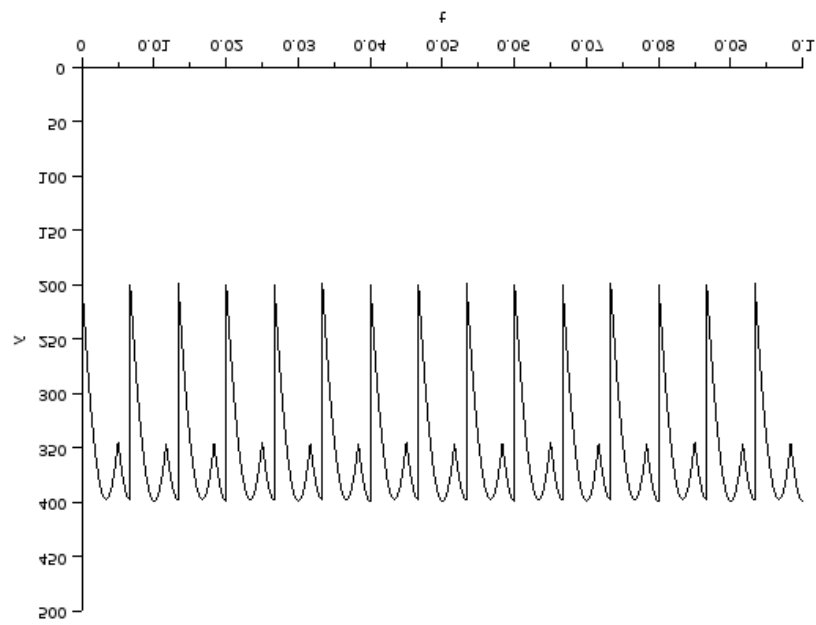


Figure 2.1: three phase half converter with resistive load

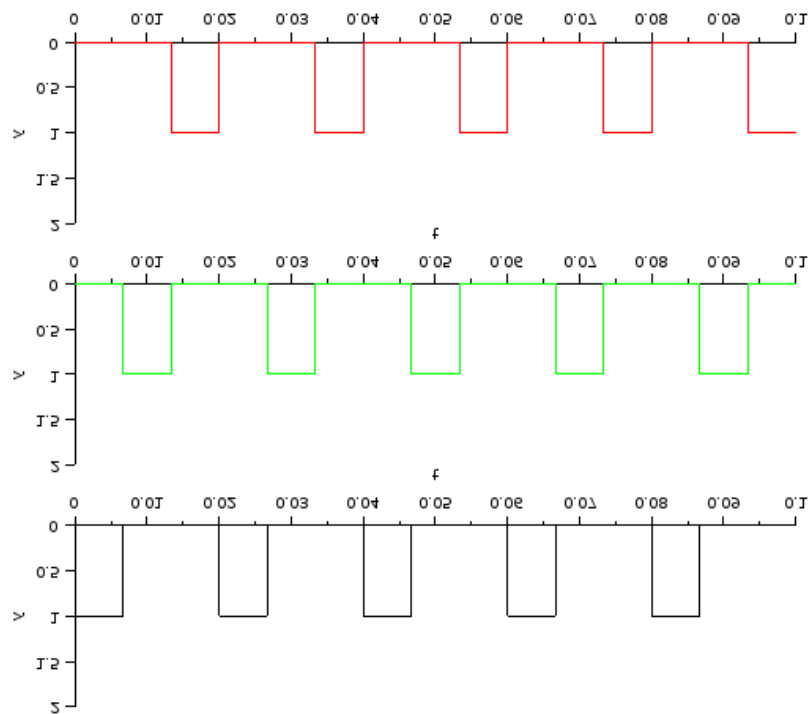


Figure 2.2: three phase half converter with resistive load

Experiment: 3

Simulation of single phase fullconverter

This code can be downloaded from the website www.scilab.in

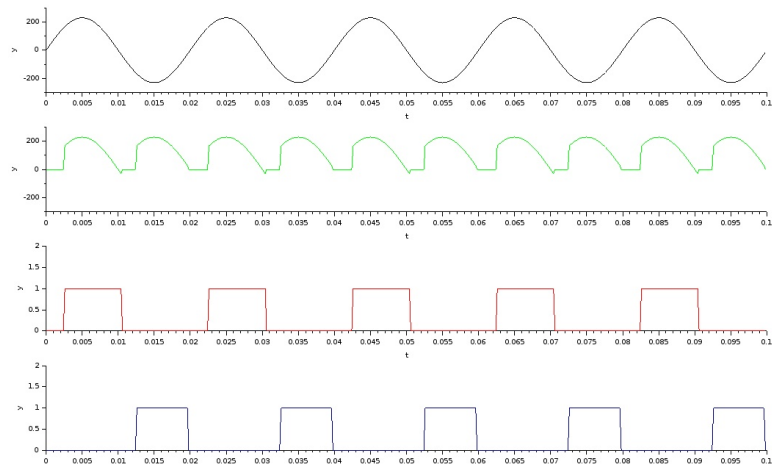


Figure 3.1: Single Phase Fully Controlled Converter

Experiment: 4

Simulation of three phase fullconverter

This code can be downloaded from the website www.scilab.in

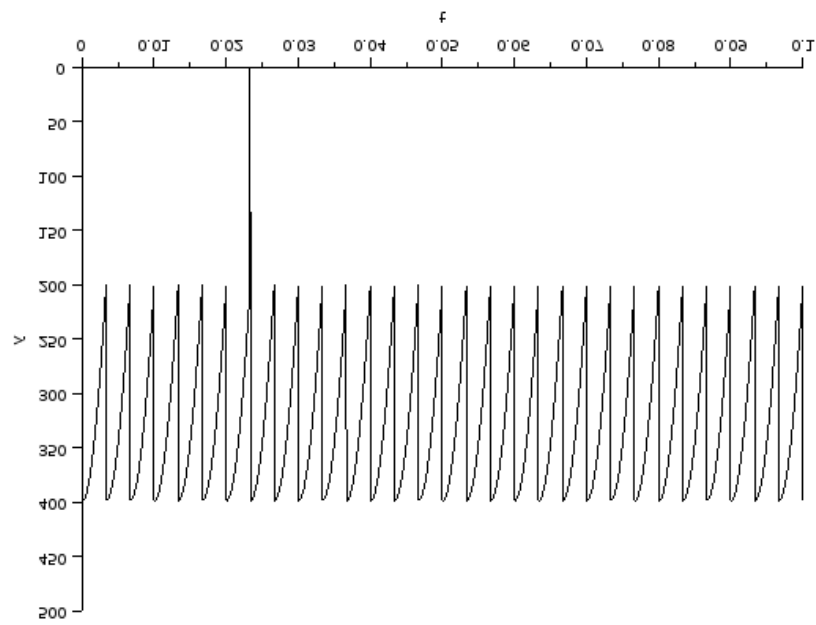


Figure 4.1: three phase full converter with resistive load

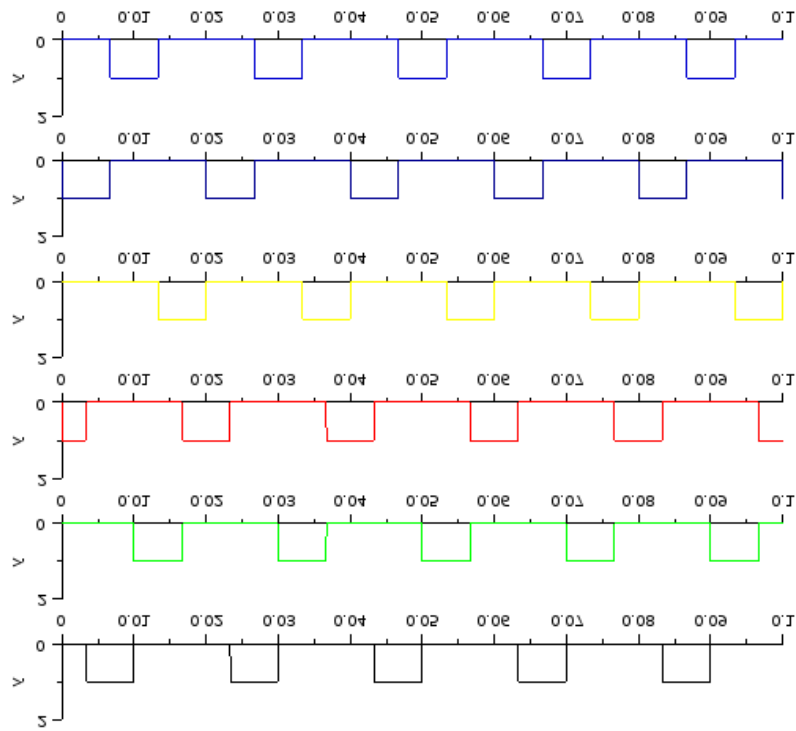


Figure 4.2: three phase full converter with resistive load

Experiment: 5

DC to DC converters

This code can be downloaded from the website www.scilab.in

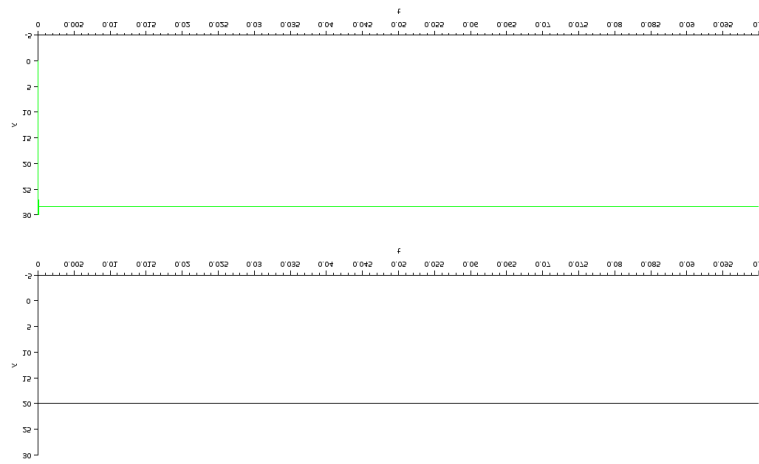


Figure 5.1: Boost converter