

HIGHER TECHNICAL INSTITUTE

ELECTRICAL ENGINEERING DEPARTMENT

DIPLOMA PROJECT

**ANALYSIS OF SWITCHING
CONVERTERS**

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Analysis of Switching Converters

Summary

This study will baseline a number of three Phase Electronics circuits and a new converter known as Matrix Converter by using the Switching Function Technique.

Switching Function Technique is a rather new method for analysis of Power Electronics circuits. The only reference in order to study and understand this new technique it was 2002-2003 3rd year class notes in Power Electronics of Dr Christos Marouchos, and AC to DC project by Andrea Poullaides.

The Switching Function is a signal consisting of a train of positive or positive and negative pulses together as in full wave rectifiers. These pulses have unity magnitude and period T . In order to find the output voltage the switching function it has to be multiplied with the input voltage, and in order to find the input current the switching function it has to be multiplied with the output current.

INDEX

Acknowledgments

Summary

Introduction

Chapter 1: Three Phase AC to DC converters 1

Introduction 1

1.1 AC to DC half wave diode, R load 2

1.1.1 Description and operation of the circuit 2

1.1.2 Circuit diagram 2

1.1.3 Modes 3

1.1.4 Waveforms 4

1.1.5 Analysis 6

1.1.6 Comments 10

1.2 AC to DC half wave diode, RL load 11

1.2.1 Description and operation of the circuit 11

1.2.2 Circuit diagram 11

1.2.3 Modes 12

1.2.4 Waveforms 13

1.2.5 Analysis 15

1.2.6 Comments 20

1.3 AC to DC half wave thyristor, R load	21
1.3.1 Description and operation of the circuit	21
1.3.2 Circuit diagram	21
1.3.3 Modes	22
1.3.4 Waveforms	23
1.3.5 Analysis	25
1.3.6 Comments	30
1.4 AC to DC half wave thyristor, RL load	31
1.4.1 Description and operation of the circuit	31
1.4.2 Circuit diagram	31
1.4.3 Modes	32
1.4.4 Waveforms	33
1.4.5 Analysis	35
1.4.6 Comments	41
1.5 AC to DC full wave diode, R load	42
1.5.1 Description and operation of the circuit	42
1.5.2 Circuit diagram	42
1.5.3 Modes	43
1.5.4 Waveforms	45
1.5.5 Analysis	47
1.5.6 Comments	51
1.6 AC to DC full wave thyristor, R load	52
1.6.1 Description and operation of the circuit	52
1.6.2 Circuit diagram	52
1.6.3 Modes	53
1.6.4 Waveforms	55
1.6.5 Analysis	57
1.6.6 Comments	61

1.7 AC to DC full wave diode, RL load	62
1.7.1 Description and operation of the circuit	62
1.7.2 Circuit diagram	62
1.7.3 Modes	63
1.7.4 Waveforms	65
1.7.5 Analysis	67
1.7.6 Comments	71
1.8 AC to DC full wave thyristor, RL load	72
1.8.1 Description and operation of the circuit	72
1.8.2 Circuit diagram	72
1.8.3 Modes	73
1.8.4 Waveforms	75
1.8.5 Analysis	77
1.8.6 Comments	81
Conclusion	82
Chapter 2: Matrix Converter	83
Introduction	83
2.1 The Bidirectional Switch	85
2.1.1 Diode Bridge Arrangement	85
2.1.2 Common Emitter Anti-Parallel IGBT, Diode Pair	85
2.1.3 Common Collector Anti-Parallel IGBT, Diode Pair	86
2.1.4 Bidirectional Switch Construction	87
2.2 Current Commutation	87
2.2.1 Basic Current Commutation	89
2.2.2 Semi Soft Commutation	89
2.2.3 Soft Switching Techniques	91

2.3 Modulation	91
2.3.1 The Modulation Problem and Basic Solution	92
2.3.2 Other Modulation Strategies	93
2.3.3 Protection	94
2.3.4 Design and Construction	95
2.4 3-Phase to 3-Phase Matrix Converter	96
2.4.1 Circuit Diagram	96
2.4.2 Block Diagram	97
2.4.3 1 st Basic Solution	97
2.4.4 2 nd Basic Solution	111
2.4.5 Comments	124
2.5 Three-Phase to Single Phase Matrix Converter	126
2.5.1 Basic Solution	126
2.5.2 Waveforms	127
2.5.3 Mathematical Analysis	129
2.5.4 Comments	133
Conclusion	134
Chapter 3: Discussion, Conclusion and Future Work	135
References	
Appendices	