

FINAL YEAR PROJECT REPORT
DESIGN, IMPLEMENTATION AND COST ANALYSIS OF A
BUCK CONVERTER TO CHARGE 12V LEAD ACID
BATTERY



Submitted by

Muhammad Rizwan (111619-102)

Malik Asad Hayat (111619-098)

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DECLARATION

We hereby declare officially that our project work entitled, “**Design, Implementation and Cost Analysis of a Buck Converter to charge 12V Lead Acid Batteries**”, submitted to the “Department Of Electrical Engineering” under School Of Engineering at University Of Management And Technology, is a record and written evidence of our work performance under the guidance of **Mr. Muhammad Shoaib** (Assistant Professor at EE Department). This document along with its project work is submitted in the partial fulfillment of the requirements of the award of the degree of Bachelor of Science in Electrical Engineering. The results embedded in this document and performance done is not done or submitted to any other University or Institute for the award of any degree or diploma.

MUHAMMAD RIZWAN

Signature:

MALIK ASAD HAYAT

Signature:

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ABSTRACT

This final year project describes the design and implementation of a buck converter to charge 12V lead acid batteries.

Our buck converter consists of a MOSFET, diode and inductor. The MOSFET acts as a switch and is turned on and off by a Pulse Width Modulated (PWM) controller. This means that by controlling the duration when the switch is on, the voltage or current at the output can be regulated. Our controller is able to sense the battery's voltage level and apply the appropriate charging algorithm accordingly. 3 LEDs are used in combination to inform the user of the charging status.

TABLE OF CONTENTS

	Page
DECLARATION	II
ACKNOWLEDGMENT	III
LIST OF FIGURES	VII
Chapter 1 INTRODUCTION	8
1.1 Introduction	8
1.2 Objective	8
Chapter 2 LITERATURE REVIEW	10
2.1 Buck Converter	10
2.1.1 Buck Converter Phenomenon	
2.2 Efficiency	10
Chapter 3 PULSE WIDTH MODULATION CONTROLLER	11
3.1 Introduction	
3.2 Working of PWM controller	11
Chapter 4 BUCK CONVERTER	14
4.1 Introduction	14
4.2 Circuit Operation	15
4.3 Continuous Conduction Mode	15
4.3.1 off State	
4.4 Advantages of Buck Converter	16

Chapter 5	HARDWARE	17
5.1	Specifications	17
5.1.1	System Level Block Diagram	18
5.1.2	Micro Controller	19
5.1.3	Voltage Regulator	23
5.1.4	Switch Driver	23
5.1.5	Power Supply	25
5.2	Testing and Evaluation	26

Chapter 6 RESULTS AND FUTURE DEVELOPMENT 29

6.1	Results	29
6.1.1	Panel	29
6.2	Future Development	29
6.3	Conclusion	30

REFERENCES 31

APPENDICES 32

Appendix A

LIST OF FIGURES

Fig 3.1 PWM controller waveform	11
Fig 3.2 Diagram of PWM controller	11
Fig 3.3 Battery Charging Algorithm	12
Fig3.4 PWM Controller Output	13
Fig 4.1 BUCK Circuit diagram	14
Fig 4.2 BUCK On State diagram	15
Fig 4.3 BUCK Off State diagram	15
Fig 5.1 Overall System	18
Fig 5.2 7805 Voltage Regulator	23
Fig 5.3 Mosfet Datasheet	24
Fig 5.4 Power Supply	25
Fig 5.5 Hardware Implementation	26
Fig5.6 Simulation of circuit	27