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FINAL REPORT OF DIPLOMA PROJECT

**0-30 VDC STABILIZED POWER SUPPLY WITH CURRENT
CONTROL 0.002-3A**

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ABSTRACT

0-30 VDC Stabilized Power Supply With Current Control 0.002 – 3A is a high quality power supply and very efficient to use in our electronic laboratory. It is because our power supply is able to supply a required voltage to other electronic circuit that uses voltage between its range.

Compared to another power supply, the features that make our power supply different are it's reduce dimension and very easy to work with simple operation. Besides, its output voltage is easily adjustable and it also has a complete protection of the supplied device against over loads and malfunction.

Besides, the ICs used in our power supply, TL081 has internal protection and cannot be damaged because of any effective short-circuiting of its output. It is a great advantage of experimental work to be able to kill the output of the power supply without having to wait for the capacitor to discharge.

ACKNOWLEDGEMENTS.

All praise to Allah S.W.T, the sustainer of the world, blessing and peace is upon our leader and chief, Nabi Muhammad S.A.W upon his companions, and upon those who followed the sincerity until The Day of Judgment.

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Finishing this project report, we've been through a lot of interesting experiences. Roughly, it gives us a thought how to be an engineer because writing a report is one of its characteristic. Besides, it is an advantage for us because it makes us easier to understand all the theories that we study in class.

In making this project, we used all the facilities that we have in searching all the information. Finding this project, we went to cyber café and searched many web pages. Besides, we also went to the library to borrow some books and past year's reports as our revision.

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CHAPTER 1

INTRODUCTION

1.1 PROJECT BACKGROUND

This is a high quality power supply with a continuously variable stabilized output adjustable at any value between 0 and 30VDC. The circuit also incorporates an electronic output current limiter that effectively controls the output current from a few milliamperes (2 mA) to the maximum output of three amperes that the circuit can deliver. This feature makes this power supply indispensable in the experimenters' laboratory, as it is possible to limit the current to the typical maximum that a circuit under test may require.

The characteristic of our power supply is, it uses an input voltage of 24 volt, AC with an input current, 3 A (maximum). Its output voltage is an adjustable voltage that rated between 0 to 30 volt. Its output current is also an adjustable current that rated between 2 mA to 3 A.

The circuit incorporates some unique features, which make it quite different from other power supplies of its class. Instead of using a variable feedback arrangement to control the output voltage, our circuit uses a constant gain amplifier to provide the reference voltage necessary for its stable operation.

1.2 OBJECTIVES

1. To introduce one power supply that indispensable in the experimenters' laboratory.
2. This power supply can support the other electronic circuits, which use a low voltage supply.
3. To learn more about power supply, its components used, their function and how it works.