

**A COMPARATIVE STUDY FUZZY LOGIC CONTROLLER AND
PROPORTIONAL INTEGRAL DERIVATIVE ON
BUCK DC/DC CONVERTER**

**This project thesis is presented in partial fulfillment for the award of the
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ABSTRACT

The switching power supply market is showing potential quickly in today's modern world. Design engineers are not always supplied with the desired amount of voltage they need in order to make their design work. As a solution, a controller is added to the system to achieve a simple digital control circuit for regulating the output of the dc-dc converter. This thesis presents a comparative study of Fuzzy Logic Controller and Proportional Integral Derivative Controller on Buck DC/DC Converter. The objective of this thesis is to compare the performance between Fuzzy Logic Controller and Proportional Integral Derivative Controller to improve the performance of DC/DC Converters. The evaluation of the output has been carried out and compared by software simulation using MATLAB. Fuzzy logic controller has been implemented to the system by developing fuzzy logic control algorithm. The signals will be processed based on the fuzzy logic rules-based and produce the output. The output will update the duty cycle of the system. This process will continue until it reached the steady-state condition.

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