

UNIVERSITI TEKNOLOGI MARA

**DESIGN, ANALYSIS AND
FABRICATION OF WIRE CUTTING
MACHINE**

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ABSTRACT

Nowadays, almost all of people out there use manual wire cutter to cut wires that are uses more energy than the automatic wire cutter. If user use the manual cutter for a long time, the probability for hand injuries is much higher. This project basically gave an initial theme that how we can approach to solve this kind of problems. In addition of that, a designated automatic wire machine is created which give more accuracy and reduces the human error, manpower, reliable work done and save the wastage of wire. This product can help reduce the time of cutting wires and produce better result. Basically, the function of this wire cutting machine are same with the manual wire cutter but with different features. Users must put input of number of wires and length of wires that need to cut. This automatic machine is fully electric and have microprocessors. It features LCD display for set up and its operation. There are three objectives in this project which are to design and develop an automatic wire cutting machine to achieve low cost cutting. A machine that are portable and easy to carry around can give benefits to people. Secondly, to help more people to cut wire accurately which will give them better finish of wires produced. Thirdly, to reduce the time of cutting wire which are faster than manually doing it.

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CHAPTER ONE

INTRODUCTION

1.1 Background of Study

Today engineers are finding many ways to reduce human efforts which ultimately save the labour cost and times. It is necessary to have wire cutting machine which will be used to cut wires and take them into further operations. This project aims to eliminate all major human errors[1].

Wires and their measurements are in high demand in the electrical industry. The heavy wire weight is needed for accurate measurement. Wire weighing and cutting are conventional processes that necessitate the use of human labour. The proposed project would automatically measure wire length and cut it with a cutting machine. The length of the wire can be decided by the user as per requirement.

The Wire Cutting Machine are designated to help reduce the time and have a better finishing of cutting wires[2]. The length of the wire to be cut are set in the length wire counter. Next, The cutting motor will be energized and cutting blade will do the cutting. This automatic machine is fully electric and have microprocessors. It features LCD display for set up and operation.