Computer Aided Software For Low Power Transformer Application

Thesis is presented to fulfill the requirement of Advanced Diploma in Electrical
Engineering of MARA Institute of Technology.

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ABSTRACT

The objective of this project is to develop a software to cater on the design of Low Power Transformer i.e. Shell type and Core type of transformer. A C++ language Version 3.0 by Borland is used in creating the software. This software helps to determine the important parameters that are required in designing a low power transformer. The software will display such as the losses, efficiency, voltage regulation and the dimension of transformer

1.0 INTRODUCTION

Transformer is one of the component widely used in Electrical and Electronics Engineering Application. The two major applications of transformer i.e. to transform voltages in Electrical Engineering and to detect signal in Electronic equipment. A range of sizes from a large single units such as large power transformers are available for transmission and distribution over large distances, to very small items such as intervalves (transformer) used in portable set.

Transformers are generally classified as Core type and Shell type of transformer. Single phase Core type of transformer has two limb around which the coil are wound. Each limb has primary and secondary coils. The Shell type of transformer has the centre limb and two outer limb.The section of each of the outer limb is half the centre limb. By comparing the mean length of turn (*MLT*) in the two cases. It was found that the *MLT* in Core type is short whereas it is quite big in the Shell type. Thus, the amount of copper which is directly proportional to the product of the total number of primary and the secondary turns. Therefore, the *MLT* will be very large in the above Shell type arrangement.

Previously, the transformers are designed manually i.e. the calculation should be done to determine the losses, efficiency, voltage regulation and the other parameters. In this project, by using the IBM compatible PC, all the data, formulas and specifications of the

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