Synchronous Machine Design Software

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Abstract- *This project presents design of Synchronous machine. Mathematical equations are used for designing the synchronous machine. They help in adjudicating the dimensions and electrical parameters and satisfy specification such as rating of machine, speed of machine, etc. as per design. Design calculation can be hectic process manually, and errors may occur during some complicated calculations.*

This software is designed in such a way that the user can enter main specification of machine as per requirement and the software will run the calculations in back end and provide the user with specific results.

Keywords- Synchronous Machine Designing, Salient Pole Rotor, Cylindrical Pole Rotor, Computer aided - design

I. INTRODUCTION

In this review paper, we are going to introduce the easiest way to calculate important parameters required for Designing Synchronous Machine. Main Focus Behind this Project is to Display electrical parameters and dimensions using Python and Other Language if required.

Designing a Synchronous Machine is very Complicated Process and might have some error While calculating, so in this article we are presenting the idea of Software that can do this process very accurately and within very less time. While designing a basic Synchronous machine these are the parameters that need to be considered Main dimensions of the stator frame, Length of air gap, Complete details of the stator windings, Design details of the rotor and rotor winding, Design of salient pole and cylindrical pole rotor, Performance details of the machine.

II. PROBLEM IDENTIFICATION

After Analyzing all the data collected, we have identified various problems while Calculating designing pamperers of Synchronous Machine some of them are listed below:

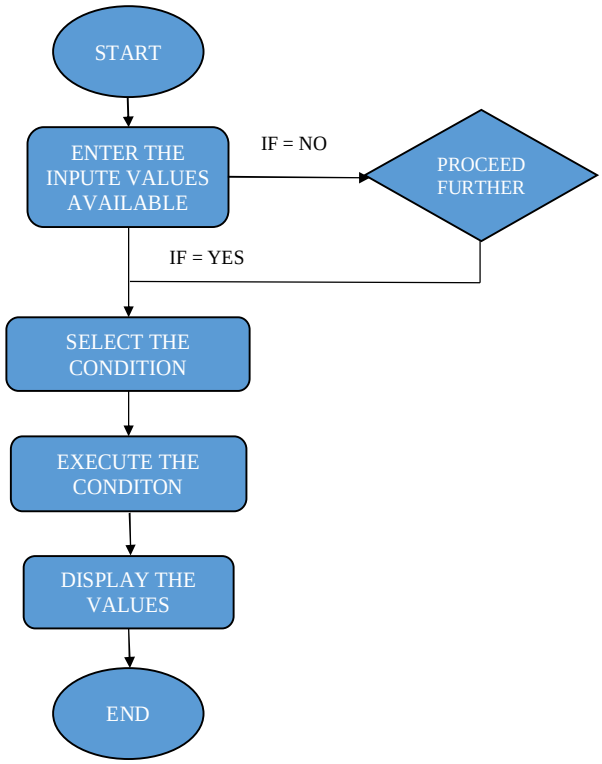
1. Human error while Designing Synchronous Machine.
2. High Efficiency of calculation are difficult to obtained manually.
3. Difficult to analyze various parameters with less data.
4. Time consuming Process

III. OBJECTIVES

The main objective of this project is to solve all the identified problems using Python and Other Language if required. And here are some of the other main objectives that we have considered in this Designing Software;

1. Display electrical parameters and dimensions using Python.
2. Allow the users to enter its Synchronous Machine ratings.
3. Allow the user to analyze various parameter with less Data.
4. Display the calculated results.
5. Fast computation.
6. Minimize error.

IV. FLOW CHART



V. PROPOSEDMETHODOLOGY

The program is coded to calculate the size and electrical parameter. User can select the type of Rotor and enter the data as per the specified design requirement, if any input is not available the user can use the standard data provided and proceed further. Hence the design parameters are calculated automatically and the values are displayed. Basic idea of this software is to give the user easy way to design a synchronous machine as per requirement.

VI. CONCLUSION

This Software is reliable and efficient for Designing Synchronous Machine. It is very user-friendly way of Calculation minimum errors. All parameters will be calculated easily if all the necessary data is available. This will reduce physical work and mental strains occurs while calculating required parameters. Using Designing Software will save the time.

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