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AUTOMATIC COIL WINDING MACHINE

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ABSTRACT

Automatic Coil Winding machine system is made to improve the coil winding for the motor. This project is focusing on the replacement of Manual coil winding machine with automatic coil winding machine. It will provide less time required for making coil. Automatic coil making machine system will solve the problem of time required for making coil. By using this system, the Industry person can make less time required for making coil. This project aim is that reducing the time required for making coils. Automatic coil winding machine consists of a system which has and some Digital display for showing no of turns, ON and OFF switches, can place his order. This project aims at reducing the number of Workers and time required for making coil, thereby reducing the cost paid to the workers. By using the above automatic coil making machine we reduce the time for eg. the 15 min time required for making 48 coil by using this machine We can make 48 turns in the 25 second. Therefore, manufacturing of coil done by using automatic coil making machine will be done in this project by using micro-controller. This machine is inexpensive and easy to handle by any industrial customer.

Keywords: Analysis, Investigation, Research.

I. INTRODUCTION

Industries are one of the Important places where the Motor are manufactured. This automatic coil making machine plays a very important role, as they have a very great impact on the Motor manufacturing company. There are many reasons why a motor manufacturing company do not get could get Satisfied profit because of reasons are long time required for the making motor because of lot of time required for making coils. To overcome this problem in industry we can make this automatic coil making machine. i.e. the 10 min time required for making 48 coil by using this machine We can make 48 coils in the 25second In addition, the cost we can provide the button Numbering system by using the Arduino Mega and another on advantage is this machine can stop on perfect 48 turns. There are chances of human error, like a while making coil with manual the coils are made loose and sometime 49 turns are made. Our project mainly aims at reducing the workers and less time providing a micro-controller based application. This system has the ability to overcome the time delays in coil making system this system can manufactured because in industry in future there are lots of motors are manufactured This system is somewhat similar to an automation project.

II. METHODOLOGY

The DC motor is used to drive the coiling wheel while the stepper motor is used to drive the toroid core to be winded. The system allows user to input the number of turns along with outer dimension of the core along with the amount of core to be winded. This data is now used by the system to achieve desired output.

III. MODELING AND ANALYSIS

Fig 1: Automatic Coil Winding.

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IV. RESULTS AND DISCUSSION

When applying the input to the keypad of the machine then the machine gets output of correct rotation motor is takes place. [For Example. 48 turns given to the keypad then the shaft is rotates correct 48 turn in 20 seconds.]

V. CONCLUSION

The earlier method of coil making is manual coil winding and it was hectic and time consuming. The time required for making the coil is very low, even space between two consecutive winding could not be achieved and tight coil formation also not achieved. While the Automatic coil making machine. Is less costly, tight coil formation and increase the coil production rate The main aim of this Automatic coil winding machine is to replace the required manual labour and minimize the time required for making coils. It was found that this machine can wind coils of 48 turns turns in just 20 sec. The main objectives of this machine is to replace the worker or a labour and also the hard work. The increases rate of production and time required for the work is saved by the machine.

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