
AUTOMATIC CABLE CUTTING MACHINE - AN OVERVIEW

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ABSTRACT

These days, a fundamental issue in creating small-scale enterprises is manpower. It frequently happens that employees go on strike for their own personal gain, which lowers performance and reduces efficiency. As a result, the business owners must face a heavy loss and are unable to realise their intended profit and objectives. Automation will address the labour shortage, save money and time, improve accuracy, and reduce human error. The workers are the biggest problems in the sector right now since they aren't doing their jobs properly and manual mistakes could slow down output. We are creating an automatically operating slicing machine to solve this issue. The company's growth and financial success will benefit from the introduction of automation to these fundamental activities because it enhances the system in numerous ways.

Keywords: Microcontroller, DC Motor Driver, LCD Display, Keypad, Cutter.

I. INTRODUCTION

Today, a big issue for the businesses in small, underdeveloped industries is labour. Labours frequently go on strike in order to advance their own interests. As a result, the business owners must incur a heavy loss and are unable to reach their targeted goals and profit. This issue can be effectively solved by the industry's automation system. The automated solution resolves labour issues, resulting in cost savings, increased accuracy, and a reduction in human errors. After researching numerous electrical and electronic industries, we've come to the conclusion that although these sectors have automated some of their operations in recent years, they still use people for labor-intensive tasks like wire cutting and packing. The company's growth and financial success will benefit from the introduction of automation to these fundamental procedures because it enhances the system in numerous ways. One such sector discovered that they needed a very effective, quick, and affordable solution for cutting different lengths of wires that are needed for making panels. Traditional wire cutting and measurement methods call for human labour. The suggested device will automatically determine the length of the wire before cutting it. The project is built using Arduino, which is adaptable and simple to use. The project is built on the versatile and user friendly Arduino ATmega328 microcontroller platform. The framework can gauge wire length precisely according to given input. The engines are driven by micro controller with required speed (upheaval per meter). The slicing device is unequivocally intended to estimated wire length in legitimate organization.

EXISTING STRATEGY

Association is using standard method for wire cutting from common procedure the creation rate is extraordinarily low since they need to check the length of wire for each piece prior to cutting which in like manner take extra time. In some cases wires conflicting length similarly as more work is required. So, more work is required, More floor space is required and Checking each piece of wire prior to cutting is required.

PROPOSED STRATEGY:-

The human endeavours in electrical wiring are high and the material utilized for the assembling of the wires is expensive. Accordingly it ought to be utilized really. Thusly, this undertaking is proposed to plan to limit the human endeavours and to keep away from the wastage of the wires. [Bhambulkar, A.V. ,2011;Ganorkar R. A. et

al. ,2014;Rahul Mishra et al.,2013;John, B., 2012]This framework can precisely estimate wire length and cutting machine can cut wire into number of pieces. The framework works deftly by utilizing legitimate information given by console and showing the info given on screen. The objectives of this method are to plan and develop a customized wire cutting machine to achieve negligible exertion cutting. It works fast and diminishes the cutting time. This equipment isn't organized using tangled parts. This machine is fundamental and smaller. This machine is arranged using point bars, rollers, oversee chambers, shaper and regulator unit to control the entire movement of machine. The rational objective of the modified wire cutting machine is to cut required length of wire in required number of pieces.

II. RESEARCH METHODOLOGY

- We can control the machine using mobile phone / Laptop using WiFi
- There are buttons like Fwd, Back, Left, Right on the screen with the sensor data
- The Real time video also can show on the screen

III. BLOCK DIAGRAM

As shown in fig.1, Adriano board the fundamental microcontroller ATmega328 is use, The line is inside the line holder run by dc Motor, Touch sensor is place as per length of the cable pipe we want.

At the point when the sensor convey the message to controller then cable pipe holder will stop and servo shaft drops down to move saw tooth sharp edge to cut the cable. The cutted line will move descending assortment box. Simultaneously, there will count programming to count the number of cable pieces. It will be demonstrated on the Display, input given by keypad to microcontroller. Thusly the communicating between more limited size controller and motor driver, by then the motors will start to work.

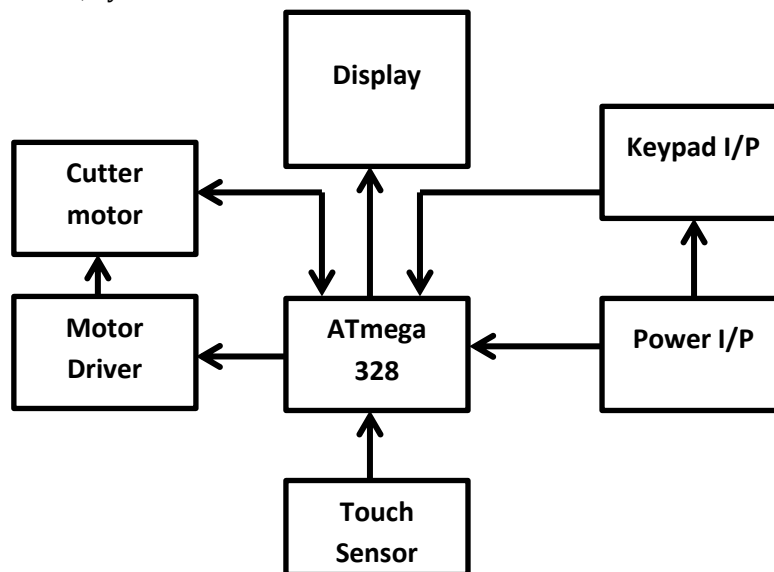


Fig. 1 :- Block Diagram

IV. CONCLUSION

Customized Wire Cutting Framework" gives huge degree of precision and cautious cutting of wires than this cutting system inside the market. Thus due to this the efficiency of creation is extended. Wire cutting framework is programmed, simple to deal with, decreases labour, save wires from harm. Since it is programmed with zero blunder with solid process. It is favourable for the businesses and for labourers.

V. REFERENCES

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