PROXIMITY SENSOR BASED PROGRAMMABLE TURNING CENTER

APPROVED BY KARNATAKA STATE COUNCIL FOR SCIENCE AND TECHNOLOGY, BANGALORE.

A project report submitted in partial fulfillment of requirements for the award of the Degree of Bachelor of Engineering in Mechanical Engineering of Visvesvaraya Technological University, Belgaum.

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ABSTRACT

With an increase in the need for quality manufacturing along with the factors of short lead times, short product lives and increasing consumer awareness regarding the quality of the product, it is becoming important for the manufacturers to initiate steps to achieve their objective. This objective can only be achieved by the use of alternate innovative engineering concepts with low cost and high efficiency.

This project involves a new concept of using the sensors for controlling the tool movement in a lathe machine. It is an automatic lathe machine which is controlled by a program. The programming unit consists of Band pattern and Inductive Proximity sensors which act as the basic tool for programming. The sensors work on the principle of inductance, which provides information about the presence and absence of metallic objects in its specified proximity area. The basic aim of this project is to make programming simple, understandable by any user, to lower the cost of the machine and can be used or implemented with very little practice.

No doubt that the automatic machines present now a days are much accurate, have high precision and works with higher efficiency such as NC (Numerically Controlled) & CNC (Computer Numerically Controlled) machines. But the cost is a major factor to be considered in such a competitive world and highly skilled operators are required to operate such machines and different softwares are used to control those machines, so operator should learn those softwares separately before it is implemented.