

الآية

سورة البقرة الآية 255

قال تعالى: ﴿اللَّهُ لَا إِلَهَ إِلَّا هُوَ الْحَيُّ الْقَيُّومُ لَا تَأْخُذُهُ سِنَّةٌ وَلَا نَوْمٌ لَهُ مَا فِي السَّمَاوَاتِ وَمَا فِي الْأَرْضِ مَنْ ذَا الَّذِي يَشْفَعُ عِنْدَهُ إِلَّا بِإِذْنِهِ يَعْلَمُ مَا بَيْنَ أَيْدِيهِمْ وَمَا خَلْفَهُمْ وَلَا يُحِيطُونَ بِشَيْءٍ مِنْ عِلْمِهِ إِلَّا بِمَا شَاءَ وَسِعَ كُرْسِيُّهُ السَّمَاوَاتِ وَالْأَرْضَ وَلَا يَئُودُهُ حِفْظُهُمَا وَهُوَ الْعَلِيُّ الْعَظِيمُ﴾ 255 سورة البقرة

Dedication

I dedicate this research to my mother for her unconditional support, also to my family, who believing in me.

I would like to dedicate this study to everyone at Giad Heavy Industrial Company and specially After Sales Service Management Sections, for their support and encouragement. I could not have completed this effort without their assistance, tolerance, and enthusiasm.

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Abstract

The aim of this study is to control Double Column Lathe Vertical Machine, using programmable logic controller (PLC) instead of conventional control. As PLCs are now involved in most industrial processes, therefor, developing a program to handle the control of a Double Column Lathe Vertical Machine will reduce maintenance rate, enhance machine performance. Further, one PLC may control more than one motor via programming extra inputs and outputs already implemented in the PLC or simply by attaching additional input/output modules.

The proposed control system will be equipped with (S7_300 CPU) controller, digital I/O module, and digital drives for DC motors and human machine interface (HMI). The communication between system components will be through Profibus. The system is programmed with statement list language (STL). The Siemens Simatic Manager and Win CC Flexible are used to configure the hard ware and to simulate the operation

الهدف من هذه الدراسة التحكم فى ماكينة الخرطة الراسية باستخدام التحكم المنطقى القابل للبرمجة بدلا من التحكم التقليدى. ونسبة للتطور فى المتحكمات المبرمجة ودخولها فى كثير من العمليات الصناعية فان تطبيقها فى ماكينة الخرطة الراسية سيؤدى الى تحسن اداء الماكينة بالاضافة الى تقليل نسبة الاعطال وزيادة الانتاج.

التحكم المقترح هو اضافة متحكم من نوع S7-300 بالاضافة الى وحدان الخصال والاخراج. وباستخدام السواقة الرقمية بدلا من السواقات التماثلية للتحكم فى موتورات التيار المستمر. وسوف يتم تغيير لوحة التحكم بشاشة رقمية. يتم الاتصال بين المتحكم والسواقات والشاشة الرقمية بواسطة (Profibus). يتم كتابة البرنامج فى اللوحة النقصية (STL). البرنامج س يستخدم هو (Simatic Manager) و (Win CC Flexible) منتج من شركة سيمنس وذلك بغرض البرمجة والمحاكاة.

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