

بسم الله الرحمن الرحيم

قال تعالى:

وَمَا أَوْتَيْتُمْ مِنَ الْعِلْمِ إِلَّا قَلِيلًاً

[سورة الإسراء: الآية 85]

Dedication

I dedicate this work to my parents
my lovely friends and wonderful teachers
Whom they have stood by me along my journey

Acknowledgement

I would like to express my gratitude to all the people who have contributed to the work. First of all, I would like to thank my supervisor Dr. AwadallaTaifourAli,for all the assistance and most of all for the inspiring subject of the thesis. Special thanks to my parents and my family for their unlimited patience.

ABSTRACT

Greenhouse is used to grow plants under controlled climatic conditions for optimum production. This thesis aims to design monitor and control system of temperature, humidity, light intensity and soil moisture of the greenhouse environment.

The microcontroller reads sensors output and then compares the output with a pre-decided value stored in the microcontroller memory. Once the input value from sensor crosses set value then the microcontroller gives a high output to the relays connected to the output of the microcontroller. These relays are used to control the various parameters of the greenhouse environment. It can connect the first relay to the fan to control the temperature. Second relay to the sprayer to control the humidity. Third relay to the water pump to increase the soil moisture. Liquid crystal display (LCD) is used to display parameters values.

مستخلص

البيت المحمي يستخدم لنمو النباتات تحت ظروف محسنة من أجل انتاج مثالي . وهذا البحث يهدف لتصميم نظام مراقبة وتحكم في الحرارة , الرطوبة , كثافة الضوء ورطوبة التربة للبيت المحمي. المتحكم الدقيق يقرأ خرج الحساسات ويقوم بمقارنتها مع قيمة محددة مسبقاً ومخزنة في ذاكرة المتحكم الدقيق. متى ما زاد الدخل القادم من الحساس عن القيمة المضبوطة فان المتحكم الدقيق يعطي خرج عالي للمرحلات الموصولة لخرج المتحكم الدقيق . هذه المرحلات تستخدم من أجل التحكم في الثوابت المختلفة لبيئة البيت المحمي . يمكنها ان توصل المرحل الاول لمروحة من اجل التحكم في الحرارة . المرحل الثاني للرشاش للتحكم في الرطوبة . المرحل الثالث لطلمبة المياه لزيادة رطوبة التربة . عارضة البلور السائل استخدمت لعرض قيم الثوابت .

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