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ABSTRACT

Controlling in irrigation is done by microcontroller and sensors.

It`s comprised from microcontroller (atmega32), soil moisture sensor, temperature sensor, solenoid valve, sprinklers and rain expectations sensors. And it`s a program of geographical information done by the internet. The soil moisture sensor measures the moisture of soil and it is output is considered as an input to microcontroller which compares it with the less value of soil moisture that preserves plants growing. When it equals the less value or it is less than it, the microcontroller reads the output of rain expectations which is a photo of rainy clouds taken by satellites. If there is no pictures of white clouds that is been captured the valve is opened for irrigation and if it`s captured the valve is closed for the coming rain. The irrigation sprinklers give a high productivity and provide a great deal of water compared by traditional irrigation.

المستخلص

التحكم في الري الزراعي بواسطة المتحكم الدقيق والمتحسسات . يتكون من متحكم دقيق (atmega32) ،حساس رطوبة التربة ،حساس درجة الحرارة ، الصمام، الرشاشات و متحسس توقعات الامطار (نظام المعلومات الجغرافية عبر الانترنت) . يعمل حساس رطوبة التربة علي قياس رطوبة التربة وخرجه عبارة عن دخل للمتحكم الدقيق يعمل علي مقارنته مع أقل قيمة لرطوبة التربة التي تحافظ علي نمؤ النبات ، اذا ساوت هذه القيمة او قلة منها يقوم المتحكم الدقيق بقراءت خرج توقعات الامطار عبارة عن صورة للسحب الممطرة تأخذ بواسطة الاقمار الصناعية ،اذا لم يتم رصد صورة لسحب بيضاء يتم فتح الصمام للري وعند رصدها يقفل الصمام وينتظر هطول الامطار .الري باستخدام الرشاشات يعطي انتاجية أعلي و يوفر قدر كبير من المياه مقارنة بالري التقليدي.

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LIST OF ABBREVIATION

LCD :	liquid crystal display.
LED:	light emitted diode
BUS:	base station unit.
VU:	valve unit.
SU:	sensor unit.
GSM:	global system for Mobil communications.
SMS:	short message service.
CMOS:	completer metal oxide semiconductor.
RISC:	reduced instruction set computing.
MIPS:	million instructions per second.
EEPROM:	electrical erasable programmable read only memory.
SRM:	static read memory.
JTAG:	joint test action group.
ADC:	analog digital.
USART:	universal synchronous a synchronous receiver/transmit
SPI:	serial peripheral interface
TQFP:	thin quad flat pack.
GIS:	geographic information system.
WFV:	water fraction by volume

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