

低功耗无线直流电磁阀及其控制模块设计与应用 Development and Application of Low Power Wireless DC Solenoid Valve and Controlling Module

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摘要: 针对当前自动化灌溉控制系统中大量铺设线缆带来的系统安装、维护、扩展困难等问题,提出了一个无线通信的灌溉控制系统方案。设计了一种基于OOK调制并使用电池供电的低功耗无线直流闭锁电磁阀。提出了具有数字和开关量输入接口的发射控制模块设计和实现方法,并以一个园区的温室灌溉为例,提供了一个基于无线电磁阀的温室灌溉控制系统的应用实例。The mass layout of the cable in field brings many problems in the automatic irrigation control system such as installation, maintenance, and extension. This article suggests a wireless broadcast irrigation control system and designs a low power wireless DC solenoid valve based on OOK modulation and powered by battery. It also introduces how to design and implement the transmission control module with discrete input and digital input. Finally, it provides an application example of automatic irrigation control system based on wireless solenoid valve throughout the greenhouse irrigation in a plantation.

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