

基于射频技术与无线网络的温湿度远程监测系统

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摘要:

对于未进行综合布线设计的建筑而言, 采用有线监测的模式难以实现室内环境监测, 基于射频技术的无线监测模式是有效的方法。本文设计了一种基于射频技术及无线网络的温湿度远程监测系统, 系统由无线温湿度传感器网及基于3G无线网络的远程传输子系统构成。文中详细介绍了无线温湿度传感器节点的设计, 基于3G无线网络的远程数据传输方法。测试结果表明所设计的无线温湿度远程监测系统实现了室内温湿度的无线远程监测, 温度监测精度为1%, 湿度监测精度为2%。

关键词: 线性化; 射频技术; 3G无线网络; 温湿度远程监测

Remote Monitoring System of Temperature and Humidity Based on Radio Frequency Technique and Wireless Network

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Abstract:

It is difficult to realize monitoring of indoor environment with wired monitoring for buildings without comprehensive wiring. The wireless monitoring based on radio frequency technique is effective method. A remote monitoring system of temperature and humidity based on radio frequency technique and wireless network is designed in this paper. The system is consists of wireless sensor network of temperature and humidity and remote transferring sub-system based on 3G wireless network. In the paper the design of wireless temperature and humidity sensor node and remote data transferring method based on 3G wireless network were introduced. The test results showed that the designed remote monitoring system of wireless temperature and humidity realized wireless remote monitoring of indoor temperature and humidity. The monitoring accuracy of temperature and humidity was 1% and 2% respectively.

Keywords: linearization; RF technique; 3G wireless network; remote monitoring of temperature and humidity

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