设计说明

随着生活质量和技术水平的提高，越来越多的人关注到公寓安全检测的重要性。通过电流检测、电压检测、功率检测、红外防盗检测等多种传感器对公寓的安全信息进行感知与实时监测，可以实现红外防盗报警、大功率电器使用报警以及火灾报警等功能，能够在上位机端实现远程监测和控制的目的，使公寓安全环境监测更加智能化，具有很好的实际应用价值。

本系统主要由 STM32 单片机控制模块、电量采集模块、烟雾采集模块、红外检测模块、WIFI 通讯模块、液晶显示模块、继电器控制模块、声光报警模块及按键输入模块共九部分组成。充分利用单片机技术、传感器技术、WIFI 通讯技术，构建一套基于 STM32 单片机的公寓安全检测系统设计。

关键词：公寓安全检测；红外防盗检测；上位机；STM32 单片机

DESIGN DESCRIPTION

With the improvement of the quality of life and technology, more and more people are paying attention to the importance of apartment safety testing. Through various sensors such as current detection, voltage detection, power detection, and infrared anti-theft detection, the security information of the apartment is sensed and monitored in real time, which can realize infrared anti-theft alarm, high-power electrical appliance alarm, and fire alarm. Realizing the purpose of remote monitoring and control, making the monitoring of the apartment's safe environment more intelligent, has a very good practical application value.

This system is mainly composed of STM32 microcontroller control module, power collection module, smoke collection module, infrared detection module, WIFI communication module, LCD display module, relay control module, sound and light alarm module and key input module. Make full use of single-chip microcomputer technology, sensor technology and WIFI communication technology to build a set of apartment security detection system design based on STM32 single-chip microcomputer.

Key words: Apartment security inspection; Infrared anti-theft detection; PC; STM32 microcontroller

以上内容仅为本文档的试下载部分，为可阅读页数的一半内容。如要下载或阅读全文，请访问：

https://d.book118.com/458121076051007002