
道路车辆载重随机动态检测系统设计

摘 要

在近年来，道路交通运输业在人们生活中扮演着十分重要的角色。在城市道路、公路、路桥干线、支线、港口等场所对过往车辆的检测尤为重要。超速，超载车辆对于国家、人民的危害与日激增。控制过往车辆的速度、长度、宽度、高度和荷载，可以有效提高交通安全，延长道路使用寿命。本系统以单片机为核心元件，通过使用不同的传感器来完成对于通过车辆的快速检测。并且带有数据显示功能，能够实时记录车辆的长度，宽度，高度，速度，重量。通过超声波传感器和压力传感器的实时检测，达到了快速，精确地测量车辆信息的目的。且系统功能稳定，安装方便，价格便宜，适宜在实际生产、生活中推广使用。

关键词：单片机；动态检测；传感器

Abstract

In recent years, road transportation industry has played a very important role in people's life. It is particularly important to inspect vehicles in cities such as highways, expressways, trunk roads and bridges, branch lines and ports. The damage to the country and people from speeding and overloading vehicles has increased rapidly. Controlling the speed, length, width, height and load of passing vehicles can effectively improve traffic safety and prolong the service life of roads. The system is considered as a single chip microcomputer as the core component, and different sensors are used to realize rapid detection of passing vehicles. And with data display function, it can record the length, width, height, speed and weight of the vehicle. Through the real-time detection of ultrasonic sensors and pressure sensors, the purpose of measuring vehicle information quickly and accurately is achieved. Moreover, the system has stable function, convenient installation and low price, and is suitable for popularization and use in actual production and life.

Key words: MCU; Dynamic detection; Sensor

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