

# 基于单片机的多功能电子秤设计

## 摘 要

随着我国商业的快速发展，电子秤的需求正在不断增加，逐渐变成生活中必不可少的计量工具，同以前的老旧秤杆做对比，它的称重速度更快，计量误差更小，它将传感器技术、数字技术以及单片机等技术融合为一体的新型计量仪器。它的实用性很强，主要应用在我们的生产生活中，具有多功能的电子秤已经逐渐成为一种简洁、高效、便利，计量精准的仪器，现在的它可以应用于多种场合，比如多种多样的贸易，小到零售业，大到大型商场、商品生厂、集贸市场等都有它的身影。该这个多功能电子秤系统的设计实现了自动称取物品重量、物品重量过限报警等功能。当传感器接收到数据然后通过相应的单片机进行处理后，得到当前项的权值和总数，然后通过液晶显示屏显示出来。下面我自己通过阅读相关文献设计出来的一个简易版本的电子秤，当压力信号传感器上放上被测物体时，这个多功能电子秤可以实时的通过压力信号传感器和 52 单片机进行一系列的处理之后，在液晶显示屏上显示出该物品的实际重量。本次设计的主要内容是利用 52 单片机来精准测量出商品的重量并显示出来，也具有过限报警，实时测量等新功能。可以根据用户实际情况和用户需求进行调整，实用性很强，而且成本低，性能比较稳定，从而方便了人们的工作。

**关键词：**单片机；压力传感器；液晶显示屏

## **ABSTRACT**

With the rapid development of our commercial business, electronic scales have become an indispensable weighing tool in our life. Compared with simultaneous interpreting scales, it is a modern weighing instrument integrated with computer technology, information processing and digital technology. In our daily life, the electronic scale has gradually become a simple, fast and accurate weighing equipment. At present, it is widely used in various occasions, such as all kinds of trade, commodity factories, markets, large shopping malls, retail industry and supermarkets. The design of the system realizes the functions of automatic weighing and data processing. After dealing with the corresponding single-chip microcomputer, the weight and total number of the current item are obtained and then displayed. The following design of a simple electronic scale, its function is when the pressure sensor on the object to be measured, real-time through the sensor and MCU on the LCD display weight parameters of the object. This design mainly uses single-chip microcomputer to accurately measure the weight of goods and display them, and also has new functions such as voice broadcast. It can be adjusted according to the user's actual situation and user's demand. It has strong practicability, low cost and stable performance, which facilitates people's work.

**Key words:** MCU ; pressure sensor ; LCD

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