
智能数字化冲压设备远程监测系统的设计

摘 要

随着工业 4.0 产业发展趋势，各国均积极提升自动化与智能化生产，在未来金属成形市场发展环境中，产品小量多样化生产将成为主流趋势；机械产业面临转型，科技加速翻转。面临工业 4.0 及智慧工厂的挑战，冲压企业现代化需求不断提高，在物联网 (IoT)、大数据 (Big Data)、人工智能 (AI) 等技术发展之下，压力机设备及冲压过程，通过整合生产制造中的通讯与控制讯号，并通过 IoT 技术与及时运算决策，从而打造符合国际标准智能制造与服务的全新模式，为企业的发展提供更大的动力推动。因此，对于企业来说，对数控冲床的状态实时监控，并能远程操作，变得尤为重要。

本文针对冲压设备的运行状态，通过运用数据采集、管理，智能控制的方法，研发智能数字化冲压设备远程监测系统。该系统能通过采集冲压设备的运行状态数据，反馈给监控中心，进而判断冲压设备运行状态，进行远程监测，控制乃至维护。该系统可以减少人力监测成本，具有实用价值。

关键词：冲压设备；远程监控；系统

Intelligent digital stamping equipment remote monitoring system

Abstract

With the development trend of Industry 4.0 industry, countries are actively promoting automation and intelligent production. In the future development environment of the metal forming market, small-scale and diversified production of products will become the mainstream trend; the machinery industry is facing transformation, and technology is turning over. Faced with the challenges of Industry 4.0 and smart factories, the modernization needs of stamping companies are constantly increasing. Under the development of technologies such as the Internet of Things (IoT), Big Data, and artificial intelligence (AI), press equipment and stamping processes have been integrated Communication and control signals in production and manufacturing, and through IoT technology and timely computing decisions, to create a new model of intelligent manufacturing and services that meet international standards, providing greater impetus for the development of enterprises. Therefore, for enterprises, it is particularly important to monitor the status of CNC punches in real time and to operate remotely.

This paper develops intelligent digital stamping equipment remote monitoring system through the use of data collection, management and intelligent control methods for the operation status of stamping equipment. The system can collect the running status data of the punching equipment and feed it back to the monitoring center, and then judge the running status of the punching equipment, perform remote monitoring, control and even maintenance. This system can reduce the cost of manpower monitoring and has practical value.

Keywords: Stamping equipment; remote monitoring; System

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