

易损/危险品物流监测智能微系统

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摘要:

一种基于数据采集、射频识别的信息采集系统, 可以采集存储物流过程中超过阈值的振动、湿度以及温度, 并记录对应的时间, 然后通过无线通信向外发送记录的数据。本系统由三部分组成, 包括基于加速度传感器、温/湿度传感器的数据采集模块、基于RFID的无线通信模块及报警模块。本系统不仅可为易损邮寄物品保驾护航, 还可对流通中的危险品状态进行实时监测, 能应用于多种恶劣环境, 实时将报警消息发送至运输人员手中, 及时发现问题, 提高运输效率, 有效地降低运输货品的破损率和危险品的事故率。

关键词: 微系统; 危险品; 加速度; 温/湿度

Intelligent Microsystem for Monitoring Logistics of Dangerous Cargo

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Abstract:

A monitoring microsystem is designed based on multi-data acquisition and radio frequency identification (RFID). The acceleration, humidity and temperature are monitored during the logistics process. These data will be recorded and an alarm will be sent to the driver through wireless communication, when they exceed the threshold. The microsystem consists of three parts, multi-data acquisition module based on accelerometer and temperature/humidity microsensors, a RFID-based wireless communication module and an alarm module. This system can monitor dangerous cargo state accurately in a variety of harsh environments, and reduce the damage-rate and accident-rate of dangerous cargo in transportation effectively.

Keywords: microsystem; dangerous cargo; acceleration; temperature/humidity

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