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论文

无线传感器网络应用于智能电网的探讨

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摘要：

针对智能电网的绩效目标与电网的实际情况，结合无线传感器网络(wireless sensor network, WSN)的主要技术特点，探讨了WSN在状态检修、智能计量与智能家居、应对电网灾变、故障定位、分布式母线保护等方面的应用，给出了WSN在各领域中应用的基本设计理念，阐述了应用WSN构建智能电网通信系统的优势，以及通信系统的具体结构。采用WSN技术的智能电网通信系统将具有成本低、功耗低、自组织、灵活性强的特点。

关键词：

Application of Wireless Sensor Networks in Smart Grid

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Abstract:

In accordance with the performance of smart grid and actual conditions of power networks, and combining with main technical characteristics of wireless sensor network (WSN), the applications of WSN in condition-based maintenance, intelligent metering and intelligent home, coping with grid catastrophe, fault location and distributed busbar protection are discussed; the basic design philosophy of application of WSN in various fields is described and the superiority of applying WSN in the construction of communication system for smart grid as well as concrete structure of such a communication system are expounded. The communication system of smart grid, in which WSN technology is utilized, will possess such advantages as low cost, low power consumption, self-organization and high flexibility.

Keywords:

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