

## 智能电网

### 智能配电网的信息架构

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#### 摘要:

智能配电网的信息构架是智能电网的核心思想体现, 智能配电网融合先进的电脑技术、灵活高效的通信技术和传感器技术做为“硬件”基础; 智能配电网信息构架是通过构建统一的电网模型, 将电网系统所涉及到的设备资源信息、空间地理信息以及含有时间信息的电网运行状态信息、运行安全信息、能源供需信息、客户响应信息等, 做为“软件”实现智能: 在任意时刻的时间断面上, 智能的将各方面的信息资源进行一体化处理, 使配电网满足未来新能源接入、安全可靠、清洁环保、社会参与的更高需求。文章介绍了智能配电网的定义和背景, 研究了智能配电网的信息架构的基本构成, 说明了可用的智能配电网信息描述模型, 分析了信息模型可利用的国际标准, 探索了智能配电网信息架构的重要方面。

**关键词:** 智能配电网;信息架构;信息模型;电力系统模型

### Information Structure of Smart Distribution Network

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#### Abstract:

Information structure is an essential element for smart distribution network, which, on one hand, integrates advanced calculation technology, flexible & high efficient communication, and powerful sensor devices to realize the smart “hardware” function; on the other hand, integrates the information about device resources, line geographic position, power system status, power system safety, energy supply, customer response, and so on, through the construction of a unified power grid model, to realize the smart “software” function. Information structure has made power grid more intelligent, since in any time span, it can process all information as a whole, so as to facilitate the connection of new energy form with distribution network, and meet the requirement for safety and security, environment protection and community participation. This paper has introduced the definition and background of smart distribution network, studied the basic components of the information structure applied to smart distribution network, described the candidate model of information in smart distribution network, analyzed the international standards available to the model, and explored the key to the development of information structure of smart distribution network.

**Keywords:** smart distribution network; information structure; model of information; power system model

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