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STUDY ON INTERNET OF THINGS ELECTRIC SYSTEM BASED ON DISTRIBUTED SMART TERMINALS IN DEMAND SIDE MANAGEMENT

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Abstract

Demand side management (DSM) plays an important role in enhancing electric power grid operation, which is sophisticated due to the versatility of different loads, the vast number of users as well as the distribution in space and time. Internet of things (IoT), goes without say, is a perfect solution to the bemused situation. In this paper, the construction and implementation scheme of an IoT electricity management system for DSM based on advanced electric smart control terminals and remote load controller (SRLC), is introduced. The system not only achieves real-time online monitoring but also achieves remote dynamic load management *integrated with various functions, especially “load feature identification” and “dangerous load shedding” are applied successfully in student dormitories (5 buildings with 750 units) of Wuhan University. A transparent electricity management platform is created on both Wuhan University’s information WEB stations (called “cloud”) and all the relative students’ mobile phones (called “terminal”) by this IoT system. The equipment costs are discussed for installing this system. The application results show that the system provides an optimal decision and reliable reference data for building energy management, with additional advantages on safety, low cost and easy implementation with smart power grid or e-Energy.* References 15, figures 10.

Key words: Smart terminal, Internet of Thing (IoT), Demand Side Management (DSM), electric system.

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