

## **Intelligent Building Energy System and Application Based on DC Microgrid Technology**

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Focusing on the application of Intelligent building energy system of DC microgrid, aiming at the key technologies and related scientific problems, such as DC fault current suppression and operation control, DC microgrid operation control, DC microgrid energy control, and intelligent building energy system planning involved in DC microgrid, the system architecture and capacity allocation method of intelligent building low-voltage DC microgrid integrated renewable energy, energy storage and DC load, and the integration of photovoltaic charging and storage, and multi-energy complementary synergy are proposed. Demonstration research on the planning, design and application of low-voltage DC microgrid based on renewable energy intelligent buildings is realized.

The report introduces in detail the research results of related technologies, such as intelligent building DC microgrid fault current suppression and DC arc detection technology, DC microgrid operation control and optimal scheduling, DC microgrid energy control and equipment development, and finally, combined with specific cases to show the application of the above results, to achieve the planning, design and application demonstration of low-voltage DC microgrid based on renewable energy intelligent buildings.