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Test devices for direct current watt-hour meters

直流电能表检验装置

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part

1. Structure and drafting rules for standardization documents" Drafting. Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents. This document was proposed by the China Machinery Industry Federation. This document is under the jurisdiction of the National Technical Committee for Standardization of Electrical Instruments (SAC/TC104). This document was drafted by: Harbin Electric Instrument Research Institute Co., Ltd., State Grid Shandong Electric Power Company Marketing Service Center (Metering Center Center), Shenzhen Xinglong Technology Co., Ltd., Yantai Dongfang Weston Electric Co., Ltd., Changsha Tianheng Measurement and Control Technology Co., Ltd., State Grid Chongqing Electric Power Company Marketing Service Center, China Southern Power Grid Research Institute Co., Ltd., Shenzhen Kelu Electronic Technology Co., Ltd. Company, Guangdong Power Grid Co., Ltd. Measurement Center, State Grid Heilongjiang Electric Power Co., Ltd. Marketing Service Center, Zhejiang Hanpu Electric Power Technology Co., Ltd. Co., Ltd., Ningbo Canaan Intelligent Electric Co., Ltd., State Grid Jiangsu Electric Power Co., Ltd. Marketing Service Center, State Grid Sichuan Electric Power Co., Ltd. Marketing Service Center, China Southern Power Grid Co., Ltd. Ultra-high Voltage Transmission Company, Ante Instrument Group Co., Ltd., State Grid Hubei Electric Power Co., Ltd. Co., Ltd. Marketing Service Center (Metering Center), Zhejiang Grete Electric Co., Ltd., State Grid Hebei Electric Power Co., Ltd. Marketing Service Center Service Center, Qingdao Dingxin Communication Co., Ltd., Wasion

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1 Scope

China's national standard for laboratory test devices for DC watt-hour meters. DC metering has become a real commercial matter rather than a laboratory curiosity: electric vehicle rapid chargers deliver direct current and the customer is billed on it, photovoltaic and battery systems meter on the DC side, and DC distribution is being built in data centres. A meter used for trade must be verified, and verifying it requires a reference device more accurate than the meter by a comfortable margin - which for DC means a stable, low-ripple source and reference standards whose accuracy is traceable. The standard specifies the device's construction and mechanical properties, its electrical and metrological performance, its energy requirements, and its climatic and electromagnetic compatibility behaviour, together with the test methods and the inspection rules for the factory and type testing of newly manufactured devices.

This document specifies the structure and mechanical properties, electrical properties,

metrological properties of the DC watt-hour meter test device installed in the laboratory. It also describes the requirements for energy, climate adaptability, electromagnetic compatibility, etc., describes the corresponding test methods, and stipulates the inspection rules, packaging, transportation and storage. content. This document applies to the factory inspection and type inspection of newly manufactured DC watt-hour meter inspection devices.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 2900.77-2008 Electrical terminology Electrical and electronic measurements and instrumentation Part

3 Terms and definitions

The terms and definitions defined in GB/T 2900.77-2008 and the following apply to this document.

3.1 A combination of equipment that provides voltage and current test signals to the DC energy meter under test and determines the measurement error of the DC energy meter under test. Note