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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 46898-2025

Technical requirements for residential hybrid photovoltaic and storage converters

户用光储一体机技术要求

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Standardization Administration of the PRC

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the China Electricity Council. This document was drafted by: China Electric Power Research Institute Co., Ltd., Sungrow Power Supply Co., Ltd., and Huawei Digital Energy Technology Co., Ltd. The company, Ginlong Technologies Co., Ltd., China Electronics Testing & Certification (Beijing) Co., Ltd., Shanghai Chint Power Systems Co., Ltd., and GoodWe. Technology Co., Ltd., and Sungrow Power Equipment Co., Ltd. The main drafters of this document are. Xu Lianghui, Yang Qingbin, Shi Zhiming, Chen Zhilei, Fu Chao, Zhang Jian, Zhu Lingzhi, Chen Xiaoxi, Dong Wei, and Xu Bo. Du Ronghua, Xu Yajun, Qin Le, Chen Fuwen, Ding Mingchang, Zhang Wenping, Guo Chongyang, Zhang Yulin, Zhou Rongrong, Jiang Feng, Bao Sijia, Liu Zhiyong, Dong Wei, Wang Liang, Li Zhongqiong, Cao Xueyuan, Liu Yalin, Zhou Xu, Xie Jing, Xu Po. Technical requirements for residential photovoltaic and energy storage integrated systems

1 Scope

GB/T 46898-2025 is the Chinese national standard covering the box on the wall of a house with solar panels and a battery - inverter, charger and battery management in one unit, with its efficiency, its grid connection and protection, its behaviour when the grid fails and its safety around a lithium battery inside a home. First edition, 21,500 words. It was issued on 31 December 2025 and has been in force since 1 April 2026, as a first edition. The document is under the responsibility of the China Electricity Council. This page is published from the official record of the 2025 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the classification and coding of residential photovoltaic and energy storage integrated machines, their normal operating conditions, appearance and protection level, basic functions, and electrical characteristics. Requirements include energy efficiency, safety performance, electromagnetic compatibility, environmental adaptability, testing rules, marking, packaging, transportation, and storage. This document applies to the design and manufacture of single-phase or three-phase residential photovoltaic and energy storage integrated systems connected to the power grid at 220V/380V voltage levels. Testing, inspection, operation, maintenance and repair.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 191 Packaging and Storage Graphic Symbols

GB/T 2423.18 Environmental testing - Part

3 Radio frequency electromagnetic field radiated immunity testing

GB/T 17626.4 Electromagnetic compatibility testing and measurement techniques - Electrical fast transient/burst immunity test

GB/T 17626.5 Electromagnetic compatibility testing and measurement techniques - Surge (impulse) immunity test

GB/T 17626.6 Electromagnetic compatibility testing and measurement techniques - Conducted disturbance immunity induced by radio frequency fields

GB/T 17626.8 Electromagnetic compatibility testing and measurement techniques - Power frequency magnetic field immunity test

GB/T 17799.2 General standards for electromagnetic compatibility - Part

16 Test Flame 50W - Horizontal and Vertical Flame Tests method

GB/T 12325 Power Quality - Supply Voltage Deviation

GB/T 12326 Power Quality - Voltage Fluctuations and Flicker

GB/T 13384 General Technical Requirements for Packaging of Mechanical and Electrical Products

GB/T 14549 Power Quality - Harmonics in Public Power Grids

GB/T 15543 Power Quality - Three-phase Voltage Imbalance

GB/T 15945 Power Quality - Frequency Deviation of Power Systems

GB/T 17626.2 Electromagnetic compatibility testing and measurement techniques - Electrostatic discharge immunity test

GB/T 17626.3 Electromagnetic compatibility testing and measurement techniques - Part