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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

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**Technical specification for battery charge discharge controller
of stand-alone photovoltaic system**

独立光伏系统用蓄电池充放电控制器技术规范

(English Translation)

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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.

1 Scope

This document defines the terms and definitions of battery charge and discharge controllers for independent photovoltaic systems (hereinafter referred to as controllers), and specifies the controller The device has the functions of battery full protection and recovery, battery over discharge protection and recovery, temperature compensation, static power consumption, charge and discharge conversion Efficiency, static MPPT tracking efficiency, measurement accuracy, protection board (lithium battery) activation function, protection function, environmental adaptability, protection, etc.

The technical requirements of the level are given and the corresponding test methods are described.

This document applies to battery charge and discharge control for independent photovoltaic systems with voltage levels of 6 V to 60 V and rated power not exceeding 12 kW The battery types include lead-acid batteries, gel batteries and lithium batteries. Other types of independent photovoltaic systems use battery charge and discharge control Device for reference use.

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. in this document.

GB/T 2423.1 Environmental testing for electric and electronic products Part 2: Test methods
Test A. Low temperature

GB/T 2423.2 Environmental testing for electric and electronic products Part 2: Test methods
Test B. High temperature

GB/T 2423.3-2016 Environmental testing Part 2: Test methods Test Cab. Steady state damp
heat test

GB/T 2423.4 Environmental testing for electric and electronic products Part 2: Test methods
Test Db. Cyclic damp heat (12 h 12 h cycle)

GB/T 2423.17 Environmental testing for electric and electronic products Part 2: Test
methods Test Ka. Salt spray

GB/T 4208 Enclosure protection degree (IP code)

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Battery charge and discharge charge discharge controller

Power electronics that control the charging and discharging of batteries in solar photovoltaic systems.

3.2 Bulk charge

In the initial charging stage, the battery is charged with the maximum working current that the photovoltaic array can provide or the rated charging current of the controller. The pool can be filled as quickly as possible.

3.3 Bulk voltage

The threshold voltage from high current charging to the next charging stage.

Note: Also called boost charging voltage.