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

GB/T 22200.4-2025

Replacing GB/Z 22203-2016

**Reliability of low-voltage apparatus - Part 4: Reliability test
method of circuit-breakers for overcurrent protection for
household and similar installation**

低压电器可靠性 第4部分：家用及类似场所用过电流保护断路器的可靠性试验方法

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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. This document is Part 4 of GB/T 22200 "Reliability of Low-Voltage Electrical Appliances". GB/T 22200 has already published the following parts.

1.General Rules;

2.Reliability Test Methods for Molded Case Circuit Breakers;

3. Reliability Test Methods for Overload Relays;

4. Reliability test methods for overcurrent protection circuit breakers used in household and similar applications;

5. Reliability Test Methods for Residual Current Operated Circuit Breakers for Household and Similar Purposes;

6. Reliability Test Methods for Contactor Relays;

7. Test methods for contactor reliability. This document replaces GB /Z 22203-2016 "Reliability Test Methods for Overcurrent Protection Circuit Breakers for Household and Similar Applications" and is consistent with... Compared with GB /Z 22203-2016, apart from structural adjustments and editorial changes, the main technical changes are as follows:

---The reliability metrics have been changed, merging "short-circuit protection success rate" and "overload protection success rate" into "overcurrent protection success rate" (see [link]). 4.1 (

4.1 in the 2016 version);

---A "sub-level 5" operational failure rate rating has been added (see 4.1 and Table 3);

---The "Short-circuit protection reliability test" and "Overload protection reliability test" are merged into "Overcurrent protection reliability test", and the phase is changed. The test methods, validation test sampling plan and procedures (see Chapters 5 and 6, Chapters 5 and 6 of the 2016 edition);

1 Scope

GB/T 22200.4-2025 is the Chinese national standard on reliability of low-voltage apparatus - part 4: reliability test method of circuit-breakers for overcurrent protection for household and similar installation, in the field of electrical engineering. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 31 December 2025 by the State Administration for Market Regulation; Standardization Administration of China, and has been in force since 1 July 2026. Classification: ICS 29.120.50, CCS K31. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This document specifies the reliability indicators and reliability tests for overcurrent protection circuit breakers (hereinafter referred to as circuit breakers) used in household

and similar locations. Methods, reliability verification test plan and test procedures, test records, and reliability test methods and steps under live operation. This document applies to overcurrent protection circuit breakers for household and similar applications conforming to GB/T 10963.1 and GB/T 10963.2. Reliability testing methods.

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 2900.18-2008 Electrical Engineering Terminology - Low-Voltage Electrical Appliances

GB/T 2900.99-2016 Reliability of Electrical Engineering Terminology

GB/T 5080 (All Parts) Equipment Reliability Testing

GB/T 10963.1-2020 Electrical accessories - Overcurrent protection circuit breakers for household and similar applications - Part

3 Terms, Definitions and Symbols

3.1 Terms and Definitions GB/T 2900.18-2008, GB/T 2900.99-2016, GB/T 5080 (all parts), GB/T 10963.1-2020, The terms and definitions defined in GB/T 10963.2-2020 and GB/T 22200.1-2025, as well as the following terms and definitions, apply to this document.

3.1.1 Reliable life The amount of time required to reduce the reliability of a product to a given value.

Note. For overcurrent protection circuit breakers used in household and similar locations, the reliable life is expressed as the number of operating cycles.

3.1.2 average life The average lifespan of a batch of products. For irreparable products, it refers to the average operating time before the irreparable product fails.