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

GB/T 22200.3-2025

**Reliability of low-voltage apparatus - Part 3: Reliability test
method for overload relays**

低压电器可靠性 第3部分：过载继电器可靠性试验方法

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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 3 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 22204-2016 "Reliability Test Methods for Overload Relays". Compared with GB /Z 22204-2016, except for the following. Aside from structural adjustments and editorial changes, the main technical changes are as follows:

---The "Level 2" protection success rate level has been removed, and a "Level 6" has been added (see Chapter 4, Chapter 4 of the 2016 edition);

---Added a rapid overload protection test method to the reliability testing methods (see 5.1.5);

---The sampling scheme for the overload relay success rate verification test in Table 2 has been modified, narrowing the recommended range for the allowable number of failures A_c (see Table 2). 6.1 (

6.1 in the 2016 version);

---Appendix C has been revised, removing "Service Life" and adding "Reliable Service Life" and "Mean Service Life" (see Appendix C, 2016 edition). C). 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 by the China Electrical Equipment Industry Association. This document is under the jurisdiction of the National Technical Committee on Standardization of Low Voltage Electrical Appliances (SAC/TC189). This document was drafted by: Hebei University of Technology, Shanghai Electrical Apparatus Research Institute, Zhejiang Chint Electric Co., Ltd., and Liangxin Electric (Hai). Salt Co., Ltd., Shanghai Noark Electric Co., Ltd., Shanghai Electrical Apparatus Research Institute (Group) Co., Ltd., and Delixi Electric Co., Ltd. The main drafters of this document are. Zhao Jingying, Zheng Jiexin, Lin Zhuxin, Li Kui, Wang Tingting, Hu Jiqing, Xing Yunqi, Wang Bingqing, and Wang Yating. The release history of this document and the document it replaces is as follows:

1 Scope

GB/T 22200.3-2025 is the Chinese national standard covering the reliability of a thermal overload relay - the device that protects a motor, tested for whether it still trips within its band after years of carrying current and never being called on. Part 3 of the series, first edition, with the other GB/T 22200 parts issued together. It was issued on 31 December 2025 and has been in force since 1 July 2026, as a first edition. The document is under the responsibility of the China Electrical Equipment Industry Association. 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 reliability indicators, reliability test methods, reliability test sampling plan and test procedures for overload relays. Record the reliability test methods and procedures under live operation. This document applies to the reliability test methods for overload relay products that conform to GB/T 14048.4 or GB/T 14048.6.

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 and Service Quality of Electrical Engineering Terminology

GB/T 5080 (All Parts) Equipment Reliability Testing

GB/T 14048.1-2023 Low-voltage switchgear and controlgear - 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 14048.1-2023, The terms and definitions defined in GB/T 14048.4-2020, GB/T 14048.6-2016, and

GB/T 22200.1-2025, as well as the following terms and definitions, shall apply. Used in 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 overload relays, reliable life is expressed as the number of operating cycles.