

ICS 29.120.99

CCS K 32



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

GB/T 22200.7-2025

**Reliability of low-voltage apparatus - Part 7: Reliability test
method for contactors**

低压电器可靠性 第7部分：接触器可靠性试验方法

Issued on: December 31, 2025

Implemented on: July 1, 2026

**Issued by: State Administration for Market Regulation;
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. This document is Part 7 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 22200-2016 "Reliability Test Methods for Small-Capacity AC Contactors" and is consistent with GB /Z 22200-2016. Compared to previous versions, aside from structural adjustments and editorial changes, the main technical changes are as follows:

---The standard name has been changed, and "small capacity AC" has been removed;

---The descriptions of reliability characteristics and the "seven levels" of operational failure rate have been removed (see Chapter 4 of the 2016 edition);

---Appendix B has been revised, removing "service life" and adding "reliable service life" and "mean service life" (see Appendix B, 2016 edition). Appendix B). 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, Suzhou Siemens Electrical Co., Ltd., and Shanghai Chint Intelligent Technology Co., Ltd. Technology Co., Ltd., Schneider Electric (China) Co., Ltd. Shanghai Branch, Zhejiang Chint Electric Co., Ltd., Delixi Electric Co., Ltd. The company, Shanghai Liangxin Electric Co., Ltd., and Zhejiang Dongya Electronics Co., Ltd. The main drafters of this document are. Li Wenhua, Jia Feng, Yu Nan, Ou Jiarong, Feng Dacheng, Xiao Tifeng, Li Xinye, Xia Changhui, Wang Jia, and Chen Zhou. The release history of this document and the document it replaces is as follows:

---First published in 2008 as GB /Z 22200-2008, and revised for the first time in 2016;

---This is the second revision.

1 Scope

GB/T 22200.7-2025 is the Chinese national standard covering the reliability of a power contactor. The electrical endurance under load, where the arc erodes the contacts a little at every break, is what actually ends a contactor's life. The part fixes the test conditions and the operating cycles, the failure criteria, the sample size and the statistical treatment that turns a number of failures into a reliability figure with a confidence level attached. It is one of the parts of GB/T 22200 issued together, and it is a first edition. 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 verification test plans and procedures, and test records for contactors. With test reports, reliability test methods and procedures under live operation. This document applies to the reliability test methods for contactor products conforming to GB/T 14048.4.

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 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 14048.5-2017 and

GB/T 22200.1-2025, as well as the following terms and definitions, apply. 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 contactors, 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.