ICS 29.120.40, 29.120.50
CCS K 31

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 17701-2023

Replacing GB/T 17701-2008

Circuit-breakers for equipment (CBE)

Issued on: September 7, 2023 **Implemented on: April 1, 2024**

Issued by: State Administration for Market Regulation, China National Standardization Administration

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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 replaces GB/T 17701-2008 "Circuit Breakers for Equipment". Compared with GB/T 17701-2008, the main technical changes are as follows.

---Make it clear that this document does not apply to overcurrent protection of building wiring devices (see Chapter 1);

---Add the main content specified in this document (see Chapter 1);

---Add "The manufacturer should declare the installation conditions in the sample" (see Chapter 6);

--- In the test conditions for the electrical performance of circuit breakers for general purposes (including inductive circuits), the rated short-circuit capacity test is specified

time interval and test current, and add test conditions to verify the applicability of the IT system (see Table 11);

---Only used in the test conditions for the electrical performance of circuit breakers for equipment with actual resistive circuits, add the verification of IT system applicability

Test requirements (see Table 12).

This document is equivalent to IEC 60934.2019 "Circuit Breakers for Equipment (CBE)".

This document has made the following minimal editorial changes.

---Table 2 The original text of the minimum creepage distance pollution level of basic insulation in the minimum creepage distance is incorrect. This document is based on

GB/T 16935.1-2023 (IEC 60664-1.2020, IDT) has been corrected;

---In footnote a of the minimum creepage distance in Table 2, the original "Table 4 of IEC 60664-1.2007" is corrected to "GB/T 16935.1-

Table F.5" of 2023;

---In the 9.16 tracking resistance test, the original text "Test voltage corresponds to the CTI value of the material (see Table 1)" is corrected to "Test voltage corresponds to the CTI value of the material (see Table 1)"

Corresponds to the CTI value of the material (see Table 2)";

---For the representation of symbols in Figure F.1, by referring to the definition of symbols in F.4, the "CB" in the original text is corrected to "Equipment Break

Router I2t tolerance";

---For the representation of symbols in Figure F.2, by referring to the definition of symbols in F.4, the original text "CBE" is corrected to "Equipment

Circuit breaker I2t withstand capability";

---F.4.3.2 In verifying backup protection coordination through testing, the original text "F.2.2" and "F.2.2.2" are corrected to "F.3.2" and "F.3.2" respectively.

"F.3.2.2".

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

1 Scope

This document applies to mechanical switching appliances designed as "circuit breakers for equipment" (CBE) for household and similar purposes. The settings specified in this document

Backup circuit breakers are intended to provide protection for circuits within electrical equipment, including its components (e.g. motors, transformers, internal wiring).

This document also applies to equipment circuit breakers that protect electrical equipment in undervoltage and/or overvoltage conditions. This document also covers information applicable to

Use circuit breakers to isolate equipment.

Note. The term "equipment" includes appliances.

Equipment circuit breakers are not suitable for overcurrent protection of building wiring installations.

Equipment circuit breakers to which this document applies.

---The rated voltage does not exceed AC 440V (phase-to-phase) and/or DC 250V;

---The rated current does not exceed 125A;

---The rated short-circuit capacity is at least 6In (AC) and 4In (DC), but not more than 3000A.

The equipment circuit breaker may have a limited short-circuit current rating (Inc) associated with the specified short-circuit protective device (SCPD). set up

See Appendix F for guidance on cooperation between standby circuit breakers and SCPDs connected to the same circuit.

For protection levels higher than IP20 in IEC 60529, and often in places with harsh environmental conditions (such as excessive humidity, overheating, excessive cold or dust)

Sedimentation) and circuit breakers for equipment used in hazardous locations (such as locations prone to explosions) may require special structures.

This document contains all the necessary requirements to ensure compliance with the operating characteristics required by type testing for this type of electrical characteristics. This document also includes

Include details related to test requirements and test methods required to ensure the retestability of test results.

This document states.

a) Characteristics of equipment circuit breakers;

b) Equipment circuit breakers should meet the following conditions.

1) Operation and working conditions during normal operation;

2) Operation and working conditions under overload;

3) Operation and working conditions during short circuit at rated short circuit capacity and below;

4) Dielectric properties;

c) The tests used to confirm compliance with these conditions and the methods used in the tests;

d) Data of the mark on the electrical appliance;

e) Test procedures and number of test samples submitted for certification purposes (see Appendix C);

f) Routine testing conducted to reveal impermissible changes in materials or manufacturing

that may affect safety (see Appendix I).

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations

For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to

this document.

GB/T 10963.1-2020 Electrical accessories Overcurrent protective circuit breakers for household and similar places Part 1.For AC

Circuit breaker (IEC 60898-1.2015,IDT)