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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 14598.149-2016

Replacing GB/T 14598.15-1998

Measuring relays and protection equipment -- Part 149: Functional requirements for thermal electrical relays

量度继电器和保护装置 第149部分：电热继电器功能要求

(English Translation)

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Foreword

GB/T 14598 "Measuring relays and protective devices" is divided into the following sections.

GB/T 14598.1 Electrical relays - Part 23. Contact performance;

GB/T 14598.2 Measuring relays and protective devices - Part 1. General requirements;

Electrical relays - Part 5. Insulation requirements and tests for measuring relays and protective devices; GB/T .

GB/T 14598.4 Electrical relays - Part 14. Life expectancy of electrical relay contacts - Preference values for contact loads;

GB/T 14598.5 Electrical relays - Part 15. Life test of electrical relay contacts - Characteristics of test equipment specification;

GB/T 14598.6 Electrical relays - Part 18. Dimensions with or without general purpose relays;

GB/T 14598.7 Electrical relays - Part 3. Single - input excitation quantities for relays with fixed time or self - defined time limits;

Electrical relays - Part 20. Protective systems;

Measuring relays and protective devices - Part 26. Electromagnetic compatibility requirements;

Measurement relays and protective devices - Part 27. Product safety requirements; GB 14598.27;

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Measuring relays and protective devices - Part 127. Requirements for over - undervoltage protection; GB/T 14598.127;

Measuring relays and protective devices - Part 149. Functional requirements for electric relays; GB/T 14598.149;

Measuring relays and protective devices - Part 151. Requirements for over/undercurrent protection function GB/T 14598.151;

--- GB/T 14598.300 microcomputer transformer protection device general technical requirements;

--- GB/T 14598.301 Microcomputer-based generator transformer fault recorder technology requirements;

--- GB/T 14598.302 arc protection device technical requirements;

General technical requirements for integrated protection devices for digital motors GB/T 14598.303.

This part is part 14 of GB/T 14598.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part of the replacement GB/T 14598.15-1998 "Electrical relays Part 8. Electric relays", and GB/T 14598.15-1998, the main technical changes are as follows.

--- Standard name changed to "Measuring relays and protective devices Part 149. Electrothermal relays Functional requirements";

--- increase the functional specification requirements, including thermal protection function block diagram, input excitation amount, switch input signal, function logic, open the number of output signals, other factors that affect the thermal protection, auxiliary power failure during the thermal protection device behavior;

- the introduction of the "hot" concept, and provides a heat level calculation method;

- increased the impact of ambient temperature on thermal protection;

--- "accuracy" to "performance specification";

--- Detailed specification of the electric relay relay test method;

--- Increased documentation requirements;

--- Appendix A is amended to "Simple First Order Thermal Model for Electrical Equipment";

--- Appendix B modified to "use the temperature as the tuning parameters of the electric relay";

- Appendix C was deleted.

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This part uses the translation method equivalent to IEC 60255-149.:2013 "Measuring relays and protective devices Part 149. Electrothermal relay Function requirements ".

In this part of the normative reference to the international documents have a consistent correspondence between the following documents.

Electrical insulation - Heat resistance and presentation method (IEC 60085.:2007, IDT); GB/T 11021-2014;

GB/T 14598.2-2011 Measuring relays and protective devices - Part 1. General requirements (IEC 60255-1.:2009, IDT).

This part is technically consistent with IEC 60255-149.:2013, with the following editorial changes.

- references to information in Appendix B;

--- edit the edit type (B.9) error.

This part is made by China Electrical Equipment Industry Association.

This section is headed by the National Standardization Technical Committee on Metric Relays and Protective Equipment (SAC/TC154).

This part of the drafting unit. Jincheng Electronics Co., Ltd., Beijing Ziguang Measurement and Control Co., Ltd., Nanjing Nairui following Electric Co., Ltd., North Beijing Sifang Ji Bao Automation Co., Ltd., Xuchang Cape Detection Technology Co., Ltd., XJ Electric Co., Ltd., Guodian Nanjing automatic Co., Ltd., Xuchang Cape Electric Research Institute, Oriental Electronics Co., Ltd., Zhuhai million of the Electrical Automation Co., Ltd., long park Shenrui Ji Bao Automation Co., Ltd., ABB (China) Co., Ltd., Schneider Electric (China) Co., Ltd., Hebei Beiheng Electric Technology Co., Ltd.

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This part of the previous version of the standard to replace the release of the situation.

--- GB/T 14598.15-1998.

Measuring relays and protection devices Part 14. Functional requirements for electrothermal relays

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1 Scope

This part of GB/T 14598 specifies the minimum requirements for thermal protection relays. This section includes protection functions, measurement characteristics and testing Method of specification.

The purpose of this section is to establish a common reusable benchmark to evaluate the AC current flowing through the protected device to protect the device from electric shock damage to the time limit relay. Supplemental input energies (eg ambient, coolant, maximum oil temperature and windings) Temperature) may apply to the thermal protection regulations specified in this section. This section includes protection relays based on thermal models with memory functions.

This section also includes test methods for the performance characteristics and accuracy of thermal protection functions.

This part does not contain the electromechanical and electronic devices specified in IEC 60947-4-1 and IEC 60947-4-2 for low-voltage motor starters Thermal overload protection of type protection devices.

The thermal protection functions covered by this section are as follows.

Protection function IEC 61850-7-4 IEEEC37.2 Thermal overload protection PTTR 49 Rotor Thermal Overload Protection PROL 49R Stator thermal overload protection PSOL 49S the general requirements for measuring relays and protective devices are in accordance with IEC 60255-1.

2 Normative reference documents

The following documents are indispensable for the application of this document. For dated references, only the dated edition applies to this article Pieces. For undated references, the latest edition (including all modifications) applies to this document.

IEC 60050 (all parts) International Electrotechnical Vocabulary (Internationalelectrotechnical vocabulary) IEC 60085 Electrical Insulation and Electrical Representation (Electricalinsulation-Thermalevaluationand) designation IEC 60255-1 Measuring relays and protective devices - Part 1. General requirements (Measuringrelaysandprotectione-quipment-Part 1. Commonrequirements IEC 61850-7-4 Power automation communication networks and systems - Part 7-4. Basic communication architecture - Compatibility - Logical node classes and numbers According to Communicationnetworksandsystems forpowerutilityautomation-Part 7-4. Basiccommuni-cation struct-Compatiblelogicalnodeclassesanddataclasses

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