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GB/T 17215.9321-2016

Electricity metering equipment -- Dependability -- Part 321: Durability testing of the stability of metrological characteristics by applying elevated temperature

电测量设备 可信性 第321部分：耐久性-高温下的计量特性稳定性试验

(English Translation)

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Foreword

GB/T 17215 "AC measurement equipment" is divided into several parts, including GB/T 17215 "electrical measurement equipment credibility" by the following Part of the composition.

- Part 11. General concept (GB/T 17215.911);

Part 21. Field instrument reliability data collection (GB/T 17215.921);

- Part 311. Acceleration reliability test for temperature and humidity (GB/T 17215.9311);

- Part 321. Durability - Measurement of stability at high temperature (GB/T 17215.9321);

- Part 41. Reliability prediction (GB/T 17215.941);

Part 51. Software Credibility (GB/T 17215.951).

This section is part 321.

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

This part uses the translation method equivalent to the use of IEC/T R62059-32-1..2011 "Electrical Measurement Equipment Trustworthiness Part 321. Endurance Property - high temperature measurement of the stability of the test. " for ease of use, this section makes

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the following editorial changes.

a) Replace the comma as a decimal point with the decimal point "."

b) "this part of IEC 62059" is replaced by the words "part of GB/T 17215";

c) The preamble of IEC/T R62059-32-1..2011 was deleted.

Introduction

The design requirements of electrical measuring equipment are high reliability and long service life under normal operating conditions, and under unattended conditions can work continuously without interruption.

In order to effectively manage the measuring equipment, it is important to predict and estimate the life characteristics of different types of equipment by appropriate means.

GB/T 17215.941 provides a method for predicting the failure rate of a metering device based on the component stress method (assuming it is a constant).

GB/T 17215.9311 provides a method for estimating life characteristics by temperature and humidity acceleration reliability tests. GB/T 17215.931 the future may increase the reliability of other stress test.

This part provides an important measure to assess the durability of the equipment - the test method for measuring the stability of the measurement properties, the product is operated for a longer period of time at the upper limit of the specified operating temperature, voltage and current operating range and tested during the test and after recovery Percentage change in the amount of error. GB/T 17215.932 The future may include additional assessment of other types of stress or durability.

Electrical measurement equipment reliability Part 321. durability - metering characteristics at high temperatures Stability test

1 Scope

This part of GB/T 17215 specifies a test method for the stability of the metering characteristics of the energy meter, that is, the test sample is subjected to a specified temperature Degree, voltage and current operating range of the upper limit conditions for a long period of time, and test its test and recovery percentage after the error Change the amount.

Performance characteristics other than the accuracy of the energy metering are not covered by this section.

Note: This test can not give the energy meter work in normal conditions, the stability of its measurement characteristics can be maintained for a long time conclusion.

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This part applies to all types of energy meters within the scope of IEC/TC13.

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.

GB/T 2423.2-2008 Environmental testing for electric and electronic products - Part 2. Test methods - Test B. High temperature (IEC 60068-2-2.:2007, IDT) GB/T 17215.211-2006 General requirements, test and test conditions for alternating current measuring equipment - Part 11. Measuring equipment (IEC 62052-11.:2003, IDT) GB/T 17215.321-2008 Particular requirements for alternating current measuring equipment - Part 21. Static active energy meters (Class 1 and Level 2) (IEC 62053-21.:2003, IDT)

3 Terms and definitions

GB/T 17215.211-2006 Definitions and the following terms and definitions apply to this document.

Durability

Until the limit state, the product in a given use and maintenance conditions to complete the required function of the ability.

NOTE: The limits of the product may be characterized by the termination of the useful life cycle, the inappropriate condition resulting from any economic and technical reasons, or other relevant factors.

[GB/T 2900.13-2008, 191-02-02]

4 Summary

The test steps include.

- initial measurement, see Chapter 5;

- Test at the upper limit of the specified operating temperature, voltage and current operating range, see Chapter 6; in the test, See Chapter 7;

- Recovery, see Chapter 8; Final Measurements, see Chapter 9.

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