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PEOPLE'S REPUBLIC OF CHINA**

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**Low-voltage current transformer for metering
(English Translation)**

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Foreword

In order to standardize the manufacture, inspection and use of low-voltage current transformers for measurement, promote the standardization of low-voltage current transformers for measurement.

Standardization, to meet the needs of automated verification, improve the quality and efficiency of the verification and distribution of low-voltage current transformers for measurement, and formulate this standard.

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard was proposed by the China Electricity Council.

This standard is under the jurisdiction of the Electric Power Industry Standardization Technical Committee.

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1 Scope

This standard specifies the technical requirements and structure of 0.4kV low-voltage
current transformers for measurement (hereinafter referred to as current transformers)
Requirements, test methods, inspection rules, packaging, transportation and storage.

This standard applies to the manufacture, inspection and use of low-voltage current
transformers for measurement.

2 Normative references

The following documents are indispensable for the application of this document. For dated
reference documents, only the dated version Applies to this document. For undated
references, the latest version (including all amendments) applies to this document.

JJG 1021-2007 Verification Regulations for Power Transformers GB/T 1804 General
Tolerance Tolerance of linear and angular dimensions without tolerance GB/T 2423.3
Environmental Test Part 2: Test Method Test Cab. Constant Damp Heat Test GB/T
2423.16-2008 Environmental testing of electrical and electronic products Part 2 Test
method Test J and guidelines. Mold growth GB/T 2423.17 Environmental testing of electric
and electronic products Part 2 Test method Test Ka. Salt spray GB/T 2423.24
Environmental Test Part 2: Test Method Test Sa. Simulate solar radiation on the ground and
its test Test guide GB/T 2423.55 Environmental testing of electrical and electronic products
Part 2 Test method Test Eh. Hammer test GB/T 5169.11 Fire hazard test for electrical and
electronic products Part 11: Glow wire/hot wire basic test method Glow wire flammability
test method (GWEPT) GB/T 13384 General technical conditions for packaging of
mechanical and electrical products GB/T 16935.1-2008 Insulation coordination of
equipment in low-voltage systems Part 1: Principles, requirements and tests GB/T
20840.1-2010 Transformer Part 1: General Technical Requirements GB/T 20840.2-2014
Transformers Part 2: Supplementary technical requirements for current transformers DL/T

1497-2016 Technical specification for electronic tags for electric energy measurement

3 Terms and definitions

The following terms and definitions defined in GB/T 20840.2-2014 and JJG 1021-2007 apply to this document.

0.4 kV metering current transformer A current transformer installed on 0.4 kV power lines for metering purposes.

Bus-type current transformer it does not have a primary conductor, but has a primary insulation, and can be directly covered with a current transformer used on a wire or bus bar.

[Refer to GB/T 2900.94-2015, 3.6] **3.3 Current transformer with multi-turn primary winding**
A current transformer with more than 1 turn in the primary winding.

Cast-resin insulation Use thermosetting resin material to inject the mold equipped with electrical components and cure it to form an insulating structure.

0.4kV anti-DC-Bias current transformer A current transformer with anti-DC bias magnet installed on 0.4kV power line.

4.2 Environmental category and severity level

The current transformer should be selected according to the severity level of the use environment, and according to altitude, temperature, damp heat, sunlight radiation, mildew Classes such as bacteria and salt spray are marked, and the specific requirements are shown in Table 1. P-level items do not need to be marked, A-level items should be marked.

4.3.1 Insulation resistance

The insulation resistance between the primary winding (if any) and the secondary winding is not less than 100 Mohm; the secondary winding is insulated from the grounding board the resistance is not less than 30 Mohm.

4.3.2 Inter-turn insulation strength

The secondary winding is open, and the primary winding is passed the rated primary current and maintained for 1 min. The secondary winding of the current transformer the insulation between turns is not damaged, and the error of the current transformer after the test should not exceed the error limit.

4.3.3 Power frequency withstand voltage

The primary winding (or the shell surface in contact with the primary conductor) to the secondary winding and the grounding base plate, and the secondary winding to the grounding base the power frequency withstand voltage of the board is 3 kV, and the test