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JJF 1799-2020

Calibration Specification for Test Devices for Action Characteristics of Low Voltage Circuit Breakers

低压断路器动作特性试验台校准规范

(English Translation)

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2.2 Transient test (1)

2.3 The area difference between the positive and negative half-waves of the first cycle (1)

4.3 Harmonic distortion(2)

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Appendix A Evaluation Example of Measurement Uncertainty (7)

Appendix B Calibration Original Record Format (11)

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Introduction

This specification is based on JJF 1071-2010 "Rules for the Compilation of National Metrology and Calibration Specifications", JJF 1059.1-2012 Compilation of "Evaluation and Expression of Measurement Uncertainty".

This specification is released for the first time.

Calibration specification for low-voltage circuit breaker operating characteristic test bench

1 Scope

This specification is applicable to the calibration of low-voltage circuit breaker operating characteristic test benches under power frequency.

2 Terms and units of measurement

2.1 Delay test Test to verify whether the delay characteristics of circuit breakers and other protective devices meet the requirements of the standard.

2.2 Instantaneous test Test to verify whether the instantaneous characteristics of circuit breakers and other protective devices meet the requirements of the standard.

2.3 The area difference between the positive and negative half-waves of the first cycle the difference between the area of the positive half-wave and the negative half-wave of the first sine wave is an index used to measure the asymmetry of the current.

2.4 Deviationofcrestfactor the ratio of the peak value to the effective value of the first cycle waveform deviates from the standard value (the standard value of the crest factor of the sine wave is 2) Percentage.

3 overview

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The low-voltage circuit breaker action characteristic test bed (hereinafter referred to as the test bed) is a kind of overcurrent protection used to detect circuit breakers an instrument with electrical tripping characteristics. The test rig is divided into two types. time delay test rig and instantaneous test rig. Detection of overload conditions the test bench for the lower tripping characteristics is called the delay test bench; the test bench for detecting the tripping characteristics under short-circuit conditions is called the instantaneous test bench.

Test bench.

The test bench is mainly composed of voltage regulator, multi-magnetic circuit transformer, current measurement module, time measurement module and other parts.

The test bench controls the output voltage of the multi-magnetic circuit transformer by adjusting the voltage of the voltage regulator, and outputs the delay or Instantaneous current value, and shows the tripping current and tripping time of the circuit breaker. The principle is shown in Figure 1.

Figure 1 Schematic diagram of the test bench

4 Measurement characteristics

4.1 Output current

The output current of the test bench should meet.

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