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NATIONAL METROLOGY TECHNICAL SPECIFICATION OF THE

PEOPLE'S REPUBLIC OF CHINA

JJF 1905-2021

Calibration Specification for Magnetic Flux Meters

磁通计校准规范

(English Translation)

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Introduction

JJF 1071 "Rules for the Compilation of National Metrology and Calibration Specifications", JJF 1001 "General Metrology Terms and Definitions" and JJF 1059.1 "Evaluation and Expression of Measurement Uncertainty" together constitutes a basic series that supports the formulation of this specification.

This specification replaces JJG317-1983 "Trial Verification Regulations for Magnetic Flux Meters". Compared with JJG317-1983, the main the technical changes are as follows.

---Added reference files;

---Metering characteristics increase the zero point drift;

---The calibration method adds the volt-second method;

The previous releases of this specification are as follows.

---JJG317-1983.

Fluxmeter calibration specification

1 Scope

This specification applies to the measurement range of 0.1mWb~10Wb, and the maximum allowable error is ±(0.1%~5.0%) Calibration of the fluxmeter.

2 Reference documents the following documents are cited in this specification.

JJF 1013 Commonly used terms and definitions of magnetic measurement for dated reference documents, only the dated version applies to this specification; for all undated references the latest version (including all amendments) is applicable to this specification.

3 overview

Fluxmeter is used for the measurement of magnetic flux. According to the display mode, it is divided into pointer type and digital type. The digital type is divided into digital Integral and analog integral.

When the magnetic flux linked in the measuring coil of the fluxmeter changes, an induced electromotive force will be generated at both ends of the measuring coil.

The flux meter measures the magnetic flux by integrating the induced electromotive force.

4 Metrological characteristics

4.1 Zero drift

Under the condition that the input terminal of the flux meter coil is short-circuited, the maximum absolute value of the magnetic flux indication within 60s.

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4.2 Magnetic flux indication error the magnetic flux indication error of the fluxmeter does not exceed its nominal maximum allowable error, and the maximum allowable error range is generally ±(0.1%~5.0%).

Note: The above indicators are not used for eligibility judgment and are for reference only.

5 Calibration conditions

5.1 Environmental conditions the environmental conditions and requirements are as follows.

a) Ambient temperature. (20±5)°C;

b) Relative humidity. <=80%;

c) Power supply. (220±22)V, (50±1)Hz;

d) There is no vibration, shock or other electromagnetic interference that obviously affects the calibration.

5.2 Measurement standards and other equipment

5.2.1 Measurement standards and other equipment used by each calibration method the measurement standards and other equipment used by each calibration method are shown in Table 1.

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