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JJG

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

JJG 842-2017

Replacing JJG 842-1993

**Electronic Meters for Measuring Direct-current Electrical
Energy
(English Translation)**

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Introduction

The rules based on JJF1002-2010 "national measurement verification rules writing rules" prepared.

This regulation is revised on the basis of JJG 842-1993 "DC Energy Meter". With JJG 842-1993 in addition, the procedures in addition to editorial changes, the technical part of the changes are as follows.

- Procedure name from the original DC energy meter to electronic DC energy meter;
- For the first time electronic DC meter (also known as static DC meter) for the test, follow-up test, not suitable for on-site verification;
- Increased the timing error of the project;
- Modify the accuracy level and error limits;
- Increased the basic error test under the reference current conditions;
- Increase the load current is less than 0.1Ib accuracy requirements;
- Modify the potential test voltage applied;
- Modify the starting test applied voltage and starting current value;
- Modify the AC voltage applied voltage test voltage value;
- Modify the electronic DC meter calibration cycle;
- Added test wiring diagram.

This version of the previous version of the release.

- JJG 842-1993 "DC energy meter." Electronic DC meter verification procedures

1 Scope

This code applies to the electronic (static) DC meter first test, follow-up test.

For power meters with other functions, perform the same procedures for this test item.

Not applicable to the verification of DC standard watt-hour meters and the site of electronic DC watt-hour meters (hereinafter referred to as watt-hour meters) Test.

2 reference documents the procedures cited in the following documents.

GB/T 16935.1-2008 Insulation coordination of equipment in low-voltage systems - Part 1. Principles, requirements and tests Test (IEC 60664-1:2007, IDT) for dated references, only the dated version applies to this edition; any undated reference the latest version (including all amendments) applies to this procedure.

3 Terms

3.1 direct access to the DC energy meter directconnectedmetersformeasuringdirect-current electricalenergy the voltage and current measuring elements are connected directly to the watt-hour meter in the dc line under test.

3.2 indirect access to the DC energy meter

indirectconnectedmetersformeasuringdirect-current electricalenergy the voltage or current measuring element is connected to the watt-hour meter of the DC line under test via one or more conversion devices, it can be a DC transmitter, a voltage divider, or a splitter, or it can be used in combination. Indirect access straight Flow meter in accordance with the transformation of the conversion of electrical parameters into current and voltage type.

3.3 A type of electronic DC energy meter

electronicmetersformeasuringdirect-currentelectrical energy (typeA) Power meters powered by independent power supplies.

3.4 B type electronic DC energy meter electronicmetersformeasuringdirect-currentelectrical energy (typeB) Energy meter powered by voltage measurement circuit.

4 Overview

Produced by the direct current (or the voltage representing the DC current) and the DC voltage acting on the solid (electronic) components Measured with the electrical energy output proportional to the instrument, called the electronic DC energy meter. According to access methods can be divided into direct access Energy meter and indirect access meter two categories.

The principle block diagram shown in Figure 1 and Figure 2.