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

GB/T 46899.1-2025

**Electrical energy meters - Test equipment, techniques and
procedures - Part 1: Stationary meter test units (MTUs)**

电能表 试验设备、技术和程序 第1部分：固定式电能表试验装置 (MTUs)

(English Translation)

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Appendix A (Informative) Symbols shall conform to GB/T 5465.2-2023.38

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document is Part 1 of GB/T 46899 "Test Equipment, Techniques and Procedures for Electricity Meters". GB/T 46899 has been published as...

Part 2.

---Part 1: Test apparatus for stationary energy meters (MTUs).

This document is equivalent to IEC 62057-1:2023 "Test equipment, techniques and procedures for electricity meters - Part 1: Test equipment for stationary electricity meters".

MTUs (Measuring Units) are used for testing.

The following minimal editorial changes have been made to this document.

---Note a has been added to Table 1;

---Corrected the table numbering in Table A.1 and corrected the redundant entries for "Xi" in Table D.9;

---The format of Table 16 has been adjusted;

---Corrected "10000/kW·h" in D.4.4 to "10000x1/(kW·h)";

---Corrected the unit of instrument constant in D.4.3 from "imp/kW·h" to "1/(kW·h)";

---Corrected the working voltage range "(-10%~15%)" in Table F.1 to "(-10%~15%)Un", and the frequency working range.

" $f_n \pm 2\%$ " is " $(1 \pm 2\%)f_n$ ";

---Corrected the frequency " $50\text{Hz} \pm 1\%/60\text{Hz} \pm 1\%$ " in Table E.1 to " $(1 \pm 1\%)50\text{Hz}/(1 \pm 1\%)60\text{Hz}$ ", Table F.2 the voltage range " $230\text{V} \pm 10\%$ " is " $(1 \pm 10\%)230\text{V}$ ".

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Electrical Instruments and Meters (SAC/TC104).

Introduction

GB/T 46899 aims to specify the relevant technical requirements for test equipment, test techniques, and test procedures for electricity meters. GB/T 46899 is proposed...

It consists of the following two parts.

---Part 1: Test Apparatus for Fixed Energy Meters (MTUs). The purpose is to specify the testing apparatus for energy meters permanently installed in a laboratory.

Type testing, acceptance testing, and verification testing of stationary energy meter test units (MTUs) for testing and calibration.

---Part 2: Portable Instrument Test Unit (PMTU). The purpose is to specify newly manufactured portable test units for field use.

Technical requirements for instrument testing equipment (PMTU).

Electricity meter testing equipment, technology and procedures Part 1: Test Apparatus for Fixed Energy Meters (MTUs)

1 Scope

This document applies to fixed energy meter testing equipment permanently installed in a laboratory for the testing and calibration of energy meters.

(MTU), particularly for type testing, acceptance testing, and verification testing of equipment. This document covers automation for indoor laboratories.

MTU requirements, applicable to newly manufactured MTUs, for use with AC voltage not exceeding 600V (line to neutral) and frequency of Testing of electricity meters in 50Hz or 60Hz electrical networks.

If the electricity meter is used for a system voltage not specified in this document, the special requirements for the MTU shall be negotiated between the manufacturer and the purchaser.