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

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**Power quality measurement in power supply systems - Part 2:
Functional tests and uncertainty requirements**

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Foreword

GB/T 39853 "Power Quality Measurement in Power Supply System" is divided into the

following two parts.

---Part 1.Power Quality Monitoring Equipment (PQI);

---Part 2.Functional test and uncertainty requirements.

This part is Part 2 of GB/T 39853.

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

The translation method used in this part is equivalent to IEC 62586-2.2017 ``Power Quality Measurement in Power Supply System Part 2.Functional Test

And uncertainty requirements."

The Chinese documents that have a consistent correspondence with the international documents cited in this section are as follows.

---GB/T 17626.7-2017 Electromagnetic compatibility test and measurement technology Power supply system and the measurement of harmonics and inter-harmonics of connected equipment

Guidelines for Quantity and Measuring Instruments (IEC 61000-4-7.2009, IDT)

---GB/T 17626.15-2011 electromagnetic compatibility test and measurement technology scintillator function and design specification (IEC 61000-4-15.2003, IDT)

---GB/T 17626.30-2012 Electromagnetic compatibility test and measurement technology Power quality measurement method (IEC 61000-4-30.2008, IDT)

---GB/T 18039.4-2017 EMC environment factory low-frequency conducted disturbance compatibility level (IEC 61000-2-4.2002, IDT)

---GB/T 27418-2017 Measurement Uncertainty Evaluation and Expression (ISO /IEC Guide98-3.2008, MOD)

This section has made the following editorial changes.

---Incorporated the errata content of IEC 62586-2.2017/COR1.2018, and the clauses related to these content have been passed on the outer page

The vertical double line (||) of the margin position is marked.

Introduction

The importance of power quality in the power supply system is becoming more and more

extensive, and it is usually evaluated by power quality monitoring equipment.

This part specifies the function and uncertainty test, which aims to verify the product's resistance to the Type A and Type S measurement methods specified in IEC 61000-4-30.

Compliance with the law.

This part is a supplement to IEC 61000-4-30.

Power quality measurement in power supply system

Part 2.Functional test and uncertainty requirements

1 Scope

This part of GB/T 39853 specifies the functional test and uncertainty requirements of the instrument.

The power quality parameters in the power supply system are monitored, and the measurement method defined by IEC 61000-4-30 (Type A or Type S) is used.

This section applies to power quality monitoring equipment that complies with GB/T 39853.1.

This part may also be referenced by other product standards (such as digital fault recorders, gateway meters, medium voltage or high voltage protection relays).

The product standard stipulates that the device embeds the Class A or Class S power quality functions defined by the IEC 61000-4-30 standard.

These requirements apply to single-phase, two-phase and three-phase AC 50Hz or 60Hz power supply systems.

This section does not involve user interfaces or topics that are not related to the measurement performance of the device.

This section does not cover the post-processing and interpretation of data, such as the use of dedicated software.

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 article

Pieces. For undated reference documents, the latest version (including all amendments) is applicable to this document.

IEC 61000-2-4 Electromagnetic Compatibility (EMC) Part 2-4.Compatibility level of low-frequency conducted disturbance in environmental factories (Electro-