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

GB/T 46246-2025

**Wind energy generation systems - Wind measurement for
application of meteorological mast, nacelle and spinner
mounted instruments**

风能发电系统 基于安装在测风塔、机舱和整流罩上的测风设备的风能资源测量
(English Translation)

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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 equivalent to IEC 61400-50-1.202 "Wind power generation systems - Part 50-1. Wind measurement based on wind measurement towers, Application of devices on the nacelle and fairing.

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

---To harmonize with existing standards, the standard title has been changed to "Wind Power Generation Systems Based on Wind Measurement Towers, Nacelles and Fairings".

Wind energy resource measurement using wind measurement equipment.

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 Wind Power (SAC/TC50).

1 Scope

IEC 61400-50 describes the methods and requirements for measuring wind speed (and related parameters such as wind direction and turbulence intensity) using equipment.

These measurements are used in conjunction with wind energy and wind turbine technologies described in other documents (such as resource assessment and wind turbine characteristic testing).

As input for some evaluation and testing procedures.

This document applies to wind measurement equipment installed on wind measurement towers, wind turbine nacelles, or wind turbine fairings.

Wind measurement at the location.

This document does not include wind measurement remote sensing equipment in locations far from where the equipment is installed (such as vertical profilers or forward-facing lidar).

Note: This document describes in detail.

a) Classification parameters for cup anemometers and ultrasonic anemometers to evaluate the performance of specific types and models of anemometers under specific environmental conditions.

Uncertainty in wind speed measurement;

b) The procedures and requirements for classifying cup anemometers and ultrasonic anemometers, for example, classifying a specific model and type of wind speed.

Part of the type test;

c) Procedures and requirements for wind tunnel calibration of anemometers;

d) Check the consistency of the calibration of one anemometer in the field, and an additional, optional method, namely by comparing it with another wind speed meter.

On-site comparison will be conducted.

- e) Requirements for installing anemometers and other instruments on the wind measurement tower;
- f) Evaluation of the uncertainty in wind speed measurement;
- g) Reporting requirements.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

ISO 2533:1975 Standard atmosphere
ISO/IEC Guide 98-3:2008 Uncertainty in Measurement - Part 3: Guidelines for the Expression of Uncertainty in Measurement (1995)

Note: GB/T 27418-2017 Evaluation and expression of measurement uncertainty (ISO/IEC Guide 98-3:2008, MOD) IEC 61400-12-3:2022 Wind power generation systems - Part 12-3. Site calibration for power characteristic testing (Windenergygen-Note. GB/T 46245-2025 Field calibration of power characteristic test for wind power generation systems (IEC 61400-12-3:2022, IDT)