

ICS 27.180
CCS F 11



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

GB/T 46247-2025

**Wind energy generation systems - Wind measurement
application of ground-mounted remote sensing technology**

风能发电系统 基于地面遥测技术的风能资源测量

(English Translation)

Issued on: October 5, 2025

Implemented on: October 5, 2025

Issued by: State Administration for Market Regulation

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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 61400-50-2:2022 "Wind power generation systems - Part 50-2. Ground-mounted remote sensing technology for wind measurement".

Application of technology.

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

---To align with existing standards, the standard name has been changed to "Wind Energy Resource Measurement Based on Ground Telemetry Technology for Wind Power Generation Systems".

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 specifies the methods and requirements for measuring wind speed (and related parameters such as wind direction and turbulence intensity) using instruments. For in Wind energy and wind turbine technologies (such as resource assessment and wind turbine testing) described in other documents within the IEC 61400 series must...

Please use these measurements as input for some evaluation and testing procedures. This document is specifically for ground-based remote sensing wind instruments, i.e., instruments that...

This document specifies wind measurement equipment (such as ultrasonic radar or vertical profile radar) installed above or away from the instrument's installation location.

This document excludes other types of remote sensing equipment, such as forward-facing or scanning radar. The following provisions are specified in this document.

a) Procedures and requirements for classifying ground-based remote sensing equipment to assess the uncertainty of the sensitivity of remote sensing equipment to meteorological conditions.

Temperature and weather conditions can vary between the location and time of remote sensing equipment calibration and the use case (specific measurement activity);

b) Procedures and requirements for calibrating remote sensing equipment;

c) Evaluation of wind speed measurement uncertainty;

d) Additional checks on the performance of remote sensing equipment and measurement uncertainty during specific measurement activities;

e) Applying wind speed uncertainties derived from remote sensing equipment calibration and classification to measurement results during a specific measurement activity (e.g., using...).

Uncertainty or calibration results interpolated to different heights);

f) 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.

IEC 61400-50-1 Wind power generation systems - Part 50-1. Wind measurement based on devices installed on the wind measurement tower, nacelle and fairing Note. GB/T 46246-2025 Wind Energy Resource Measurement Based on Wind Measurement Equipment Installed on Wind Measurement Towers, Nacelles and Fairings for Wind Power Generation Systems (IEC 61400-50-1:2022, IDT)

3 Terms and Definitions

The following terms and definitions apply to this document.

accuracy

The degree to which the measured value of the measured object closely approximates the true value.

Complex terrain

The area or obstacles around the test site that can cause significant changes in terrain that can distort airflow.