

STN	Veterné elektrárne Časť 50-3: Použitie lidarov pripevnených na gondole na meranie vetra	STN EN IEC 61400-50-3 33 3136
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Wind energy generation systems - Part 50-3: Use of nacelle-mounted lidars for wind measurements

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 04/22

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**Wind energy generation systems - Part 50-3: Use of nacelle-mounted lidars for wind measurements
(IEC 61400-50-3:2022)**

Systèmes de génération d'énergie éolienne - Partie 50-3:
Utilisation de lidars montés sur nacelle pour le mesurage du
vent
(IEC 61400-50-3:2022)

Windenergieanlagen - Teil 50-3: Verwendung von auf der
Gondel montierten LiDARs für Windmessungen
(IEC 61400-50-3:2022)

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EN IEC 61400-50-3:2022 (E)**European foreword**

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IEC 61400-1:2019 NOTE Harmonized as EN IEC 61400-1:2019 (not modified)

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61400-12-1	2017	Wind turbines - Part 12-1: Power performance measurements of electricity producing wind turbines	EN 61400-12-1	2017
IEC 61400-12-2	2013	Wind turbines - Part 12-2: Power performance of electricity-producing wind turbines based on nacelle anemometry	EN 61400-12-2	2013



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**Wind energy generation systems –
Part 50-3: Use of nacelle-mounted lidars for wind measurements**

**Systèmes de génération d'énergie éolienne –
Partie 50-3: Utilisation de lidars montés sur nacelle pour le mesurage du vent**





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NORME INTERNATIONALE



**Wind energy generation systems –
Part 50-3: Use of nacelle-mounted lidars for wind measurements**

**Systèmes de génération d'énergie éolienne –
Partie 50-3: Utilisation de lidars montés sur nacelle pour le mesurage du vent**

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WIND ENERGY GENERATION SYSTEMS –**Part 50-3: Use of nacelle-mounted lidars for wind measurements**

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Draft	Report on voting
88/845/FDIS	88/853/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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WIND ENERGY GENERATION SYSTEMS –

Part 50-3: Use of nacelle-mounted lidars for wind measurements

1 Scope

The purpose of this part of IEC 61400 is to describe procedures and methods that ensure that wind measurements using nacelle-mounted wind lidars are carried out and reported consistently and according to best practice. This document does not prescribe the purpose or use case of the wind measurements. However, as this document forms part of the IEC 61400 series of standards, it is anticipated that the wind measurements will be used in relation to some form of wind energy test or resource assessment.

The scope of this document is limited to forward-looking nacelle-mounted wind lidars (i.e. the measurement volume is located upstream of the turbine rotor).

This document aims to be applicable to any type and make of nacelle-mounted wind lidar. The method and requirements provided in this document are independent of the model and type of instrument, and also of the measurement principle and should allow application to new types of nacelle-mounted lidar.

This document aims to describe wind measurements using nacelle-mounted wind lidar with sufficient quality for the use case of power performance testing (according to IEC 61400-12-1:2017). Readers of this document should consider that other use cases may have other specific requirements.

This document only provides guidance for measurements in flat terrain and offshore as defined in IEC 61400-12-1:2017, Annex B. Application to complex terrain has been excluded from the scope due to limited experience at the time of writing this document.

Corrections for induction zone or blockage effects are not included in the scope of this document. However, such correction or uncertainty estimation due to blockage effects may be applied if required by the use case, under the responsibility of the user.

The purpose of this document is to provide guidance for wind measurements. HSE requirements (e.g. laser operation) are out of the scope of this document although they are important.

2 Normative references

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ISO/IEC 61400-12-1:2017, *Wind energy generation systems – Part 12-1: Power performance measurements of electricity producing wind turbines*

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