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**Vetrne turbine - 22. del: Preskušanje skladnosti in certificiranje (IEC 61400-22:2010)**

Wind turbines - Part 22: Conformity testing and certification (IEC 61400-22:2010)

Windenergieanlagen - Teil 22: Konformitätsprüfung und Zertifizierung (IEC 61400-22:2010)

**iTeh STANDARD PREVIEW**

Eoliennes - Partie 22: Essais de conformité et certification (CEI 61400-22:2010)

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 61400-22**

January 2011

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English version

**Wind turbines -  
Part 22: Conformity testing and certification  
(IEC 61400-22:2010)**

Eoliennes -  
Partie 22: Essais de conformité et  
certification  
(CEI 61400-22:2010)

Windenergieanlagen -  
Teil 22: Konformitätsprüfung und  
Zertifizierung  
(IEC 61400-22:2010)

This European Standard was approved by CENELEC on 2011-01-02. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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**CENELEC**

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 88/365/FDIS, future edition 1 of IEC 61400-22, prepared by IEC TC 88, Wind turbines, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61400-22 on 2011-01-02.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The following dates were fixed:

- |  |       |            |
|--|-------|------------|
| – latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement | (dop) | 2011-10-02 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn   | (dow) | 2014-01-02 |

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 61400-22:2010 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60034-1	NOTE Harmonized as EN 60034-1:2011
IEC 60076-1	NOTE Harmonized as EN 60076-1.

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## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60034	Series	Rotating electrical machines	EN 60034	Series
IEC 60050-415	-	International Electrotechnical Vocabulary - Part 415: Wind turbine generator systems	-	-
IEC 61400	Series	Wind turbines	EN 61400	Series
IEC 61400-1	-	Wind turbines - Part 1: Design requirements	EN 61400-1	-
IEC 61400-2	-	Wind turbine - Part 2: Design requirements for small wind turbines	EN 61400-2	-
IEC 61400-3	2009	Wind turbines - Part 3: Design requirements for offshore wind turbines	EN 61400-3	2009
IEC 61400-11	-	Wind turbine generator systems - Part 11: Acoustic noise measurement techniques	EN 61400-11	-
IEC 61400-12-1	-	Wind turbines - Part 12-1: Power performance measurements of electricity producing wind turbines	EN 61400-12-1	-
IEC/TS 61400-13	-	Wind turbine generator systems - Part 13: Measurement of mechanical loads	-	-
IEC 61400-21	-	Wind turbines - Part 21: Measurement and assessment of power quality characteristics of grid connected wind turbines	EN 61400-21	-
IEC/TS 61400-23	-	Wind turbine generator systems - Part 23: Full-scale structural testing of rotor blades	-	-
IEC 61400-24	-	Wind turbines - Part 24: Lightning protection	EN 61400-24	-
ISO/IEC 17020	-	General criteria for the operation of various types of bodies performing inspection	EN ISO/IEC 17020	-
ISO/IEC 17021	-	Conformity assessment - Requirements for bodies providing audit and certification of management systems	EN ISO/IEC 17021	-
ISO/IEC 17025	-	General requirements for the competence of testing and calibration laboratories	EN ISO/IEC 17025	-

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO/IEC Guide 2	-	Standardization and related activities - General vocabulary	EN 45020	-
ISO/IEC Guide 65	-	General requirements for bodies operating product certification systems	EN 45011	-
ISO 81400-4	2005	Wind turbines - Part 4: Design and specification of gearboxes	-	-
ISO 9001	2008	Quality management systems - Requirements	EN ISO 9001	2008

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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



Wind turbines – **iTeh STANDARD PREVIEW**  
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Eoliennes –  
Partie 22: Essais de conformité et certification  
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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## WIND TURBINES –

## Part 22: Conformity testing and certification

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61400-22 has been prepared by IEC technical committee 88: Wind turbines.

This standard cancels and replaces IEC WT 01 (2001): IEC System for Conformity Testing and Certification of Wind Turbines – Rules and Procedures.

The text of this standard is based on the following documents:

FDIS	Report on voting
88/365/FDIS	88/368/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of the IEC 61400 series, under the general title: *Wind turbines*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

**IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.**

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## INTRODUCTION

This International Standard defines rules and procedures for conformity testing and certification of wind turbines with respect to standards and technical requirements for wind turbines and wind farms. It is intended to facilitate mutual recognition (reciprocal acceptance) by participants of test results and certificates issued by other participants for obtaining certification at national level and operates within the scope of the IEC 61400 series of standards and technical specifications for wind turbines.

The certification procedures in this standard constitute a complete third party conformity evaluation of a wind turbine type, a major component type or one or more wind turbines at a specific location.

In addition to design verification and testing, this standard provides information for the recognition of or assessment for approval of the supplier's quality system, regular surveillance through inspection of the supplier's quality system and quality plans, and audit testing of samples. The standard is amongst others intended to result in significant benefit to the applicant by reducing the number of steps necessary to obtain certification or approval at national level.

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## WIND TURBINES –

### Part 22: Conformity testing and certification

#### 1 Scope

This International Standard defines rules and procedures for a certification system for wind turbines (WT) that comprises both type certification and certification of wind turbine projects installed on land or off-shore. This system specifies rules for procedures and management for carrying out conformity evaluation of WT and wind farms, with respect to specific standards and other technical requirements, relating to safety, reliability, performance, testing and interaction with electrical power networks. It provides:

- definitions of the elements in a wind turbine certification process;
- procedures for conformity evaluation in a wind turbine certification system;
- procedures for conformity surveillance;
- rules for the documentation that is to be supplied by an applicant for the conformity evaluation; and
- requirements for certification and inspection bodies and testing laboratories.

The rules and procedures are not limited to WT of any particular size or type. However, special rules and procedures apply for small wind turbines (SWT). Some elements of certification are mandatory, whilst provision is specifically made for others to be optional. For type certification, the document describes procedures relating to conformity testing, design, manufacture, and the plans for transportation, erection, installation and maintenance. The procedures deal with the assessment of loads and safety, testing, characteristics measurements and surveillance of manufacturing. For project certification, the document describes procedures relating to the assessment that particular wind turbines and support structure/foundation designs in a project are appropriate for the application and relating to transportation, installation, commissioning, operation and maintenance. The procedures deal with assessment in accordance with all modules in this document, e.g. the site conditions, the design of site-specific components and surveillance of manufacturing, transportation, installation and operation.

The purpose of the rules and procedures is to provide a common basis for certification of wind turbines and wind turbine projects, including a basis for acceptance of operating bodies (i.e. certification bodies, inspection bodies and testing laboratories) and mutual recognition of certificates.

The rules and procedures are intended to be used in conjunction with the appropriate IEC/ISO standards and Guides, see Clause 2.

#### 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE In the case where an earlier or withdrawn edition of the referenced normative document is used together with this document, these earlier editions must be specified in the Agreement for Certification, see Subclause 6.2, and in conformity statements and certificates.

IEC 60034 (all parts), *Rotating electrical machines*