



NSAI
Standards

Irish Standard
I.S. EN 61400-21:2008

Wind turbines -- Part 21: Measurement and assessment of power quality characteristics of grid connected wind turbines (IEC 61400-21:2008 (EQV))

I.S. EN 61400-21:2008

Incorporating amendments/corrigenda issued since publication:

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EUROPEAN STANDARD

EN 61400-21

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2008

ICS 27.180

Supersedes EN 61400-21:2002

English version

**Wind turbines -
Part 21: Measurement and assessment
of power quality characteristics of grid connected wind turbines
(IEC 61400-21:2008)**

Eoliennes -
Partie 21: Mesurage et évaluation
des caractéristiques de qualité
de puissance des éoliennes
connectées au réseau
(CEI 61400-21:2008)

Windenergieanlagen -
Teil 21: Messung und Bewertung
der Netzverträglichkeit
von netzgekoppelten
Windenergieanlagen
(IEC 61400-21:2008)

This European Standard was approved by CENELEC on 2008-10-01. 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

I.S. EN 61400-21:2008

EN 61400-21:2008

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Foreword

The text of document 88/317/FDIS, future edition 2 of IEC 61400-21, prepared by IEC TC 88, Wind turbines, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61400-21 on 2008-10-01.

This European Standard supersedes EN 61400-21:2002.

EN 61400-21:2008 includes the following new items with respect to EN 61400-21:2002:

- interharmonics and current distortions (< 9 kHz),
- response to voltage dips,
- active power ramp rate limitation and set-point control,
- reactive power capabilities and set-point control,
- grid protection and reconnection time after grid faults.

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) 2009-07-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2011-10-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61400-21:2008 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 61000-3-3	NOTE Harmonized as EN 61000-3-3:2008 (not modified).
IEC 61000-4-30	NOTE Harmonized as EN 61000-4-30:2003 (not modified).
IEC 61400-1	NOTE Harmonized as EN 61400-1:2005 (not modified).

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 60044-1 (mod)	- ¹⁾	Instrument transformers - Part 1: Current transformers	EN 60044-1	1999 ²⁾
IEC 60044-2 (mod)	- ¹⁾	Instrument transformers - Part 2: Inductive voltage transformers	EN 60044-2	1999 ²⁾
IEC 60050-161	- ¹⁾	International Electrotechnical Vocabulary (IEV) - Chapter 161: Electromagnetic compatibility	-	-
IEC 60050-415	- ¹⁾	International Electrotechnical Vocabulary (IEV) - Part 415: Wind turbine generator systems	-	-
IEC 61000-4-7	2002	Electromagnetic compatibility (EMC) - Part 4-7: Testing and measurement techniques - General guide on harmonics and interharmonics measurements and instrumentation, for power supply systems and equipment connected thereto	EN 61000-4-7	2002
IEC 61000-4-15	- ¹⁾	Electromagnetic compatibility (EMC) - Part 4-15: Testing and measurement techniques - Flickermeter - Functional and design specifications	EN 61000-4-15	1998 ²⁾
IEC 61400-12-1	- ¹⁾	Wind turbines - Part 12-1: Power performance measurements of electricity producing wind turbines	EN 61400-12-1	2006 ²⁾
IEC 61800-3	2004	Adjustable speed electrical power drive systems - Part 3: EMC requirements and specific test methods	EN 61800-3	2004
IEC 62008	- ¹⁾	Performance characteristics and calibration methods for digital data acquisition systems and relevant software	EN 62008	2005 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

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