AS IEC 61400.2—2013
IEC 61400-2, Ed.2.0 (2006)

AS IEC 61400.2—2013

Australian Standard®

Wind turbines

Part 2: Design requirements for small wind turbines

This Australian Standard® was prepared by Committee EL-048, Wind Turbine Systems. It was approved on behalf of the Council of Standards Australia on 14 March 2013.
This Standard was published on 28 March 2013.

The following are represented on Committee EL-048:

- Australian Industry Group
- Clean Energy Council
- Clean Energy Regulator
- Engineers Australia

This Standard was issued in draft form for comment as DR AS IEC 61400.2.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

Keeping Standards up-to-date

Australian Standards® are living documents that reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued.

Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments that may have been published since the Standard was published.

Detailed information about Australian Standards, drafts, amendments and new projects can be found by visiting www.standards.org.au

Standards Australia welcomes suggestions for improvements, and encourages readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.org.au, or write to Standards Australia, GPO Box 476, Sydney, NSW 2001.

Australian Standard®

Wind turbines

Part 2: Design requirements for small wind turbines

First published as AS 61400.2 (Int)—2006.
Revised and redesignated as AS IEC 61400.2—2013.

Published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001, Australia

ISBN 978 1 74342 386 8

PREFACE

This Standard was prepared by the Standards Australia Committee EL-048, Wind Turbine Systems, to supersede AS 61400.2(Int)—2006, *Wind turbines*, Part 2: *Design requirements for small wind turbines*.

The objective of this Standard is to provide designers, manufacturers, test laboratories and users with requirements for small wind turbines (viz. with a swept area up to 200 m^2, see Clause 3.48).

The objective of this revision is to confirm the adoption of IEC 61400-2 as a full Australian Standard and update the list of Australian Standards to be used as alternatives to international referenced documents.

For the design and manufacture of products intended to be installed in locations with severe wind climates, such as cyclonic areas of Australia, see the AS/NZS 1170 series and other appropriate Australian wind loading Standards.

This Standard is identical with, and has been reproduced from IEC 61400-2, Ed.2.0 (2006), *Wind turbines*—Part 2: *Design requirements for small wind turbines*.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number appears on the cover and title page while the International Standard number appears only on the cover.

(b) In the source text 'this part of IEC 61400' should read 'this Australian Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian Standard*	
IEC		AS	
60034	Rotating electrical machines	60034	Rotating electrical machines
60034-1	Part 1: Rating and performance	60034.1	Part 1: Rating and performance
60034-5	Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code)—Classification	60034.5	Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP Code)—Classification
60034-8	Part 8: Terminal markings and direction of rotation	60034.8	Part 8: Terminal markings and direction of rotation (IEC 60034-8, Ed.3 (2007) MOD)
60038	IEC standard voltages	60038	Standard voltages
60204	Safety of machinery—Electrical equipment of machines	60204	Safety of machinery—Electrical equipment of machines
60204-1	Part 1: General requirements	60204.1	Part 1: General requirements (IEC 60204-1, Ed.5 (FDIS) MOD)
ISO/IEC		AS ISO/IEC	
17025	General requirements for the competence of testing and calibration laboratories	17025	General requirements for the competence of testing and calibration laboratories
ISO		AS	
2394	General principles on reliability for structures	5104	General principles on reliability for structures

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the annex to which they apply. A ‘normative’ annex is an integral part of a Standard, whereas an ‘informative’ annex is only for information and guidance.

CONTENTS

Page

Page

AUSTRALIAN STANDARD

Wind turbines

Part 2:
Design requirements for small wind turbines

1 Scope

This part of IEC 61400 deals with safety philosophy, quality assurance, and engineering integrity and specifies requirements for the safety of Small Wind Turbines (SWTs) including design, installation, maintenance and operation under specified external conditions. Its purpose is to provide the appropriate level of protection against damage from hazards from these systems during their planned lifetime.

This part of IEC 61400 is concerned with all subsystems of SWT such as protection mechanisms, internal electrical systems, mechanical systems, support structures, foundations and the electrical interconnection with the load.

While this part of IEC 61400 is similar to IEC 61400-1, it does simplify and make significant changes in order to be applicable to small turbines.

This part of IEC 61400 applies to wind turbines with a rotor swept area smaller than 200 m^2, generating at a voltage below 1 000 V a.c. or 1 500 V d.c.

This part of IEC 61400 should be used together with the appropriate IEC and ISO standards (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.

IEC 60034-1, *Rotating electrical machines – Part 1: Rating and performance*

IEC 60034-2, *Rotating electrical machines – Part 2: Methods for determining losses and efficiency of rotating electrical machinery from tests (excluding machines for traction vehicles)*

IEC 60034-5, *Rotating electrical machines – Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) – Classification*

IEC 60034-8, *Rotating electrical machines – Part 8: Terminal markings and direction of rotation*

IEC 60038:1983, *IEC standard voltages*
Amendment 1 (1994)
Amendment 2 (1997)