

# **SLOVENSKI STANDARD**

## **SIST EN 61400-25-3:2016**

**01-marec-2016**

**Nadomešča:**

**SIST EN 61400-25-3:2007**

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**Vetrne turbine - 25-3. del: Komunikacije za spremljanje in nadzor vetrnih elektrarn -  
Modeli za izmenjavo informacij**

Wind turbines - Part 25-3: Communications for monitoring and control of wind power  
plants - Information exchange models

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**Ta slovenski standard je istoveten z: EN 61400-25-3:2015**

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**ICS:**

27.180	Sistemi turbin na veter in drugi alternativni viri energije	Wind turbine systems and other alternative sources of energy
35.240.50	Uporabniške rešitve IT v industriji	IT applications in industry

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 61400-25-3**

November 2015

ICS 27.180

Supersedes EN 61400-25-3:2007

English Version

**Wind turbines - Part 25-3: Communications for monitoring and  
control of wind power plants - Information exchange models  
(IEC 61400-25-3:2015)**

Eoliennes - Partie 25-3: Communications pour la  
surveillance et la commande des centrales éoliennes -  
Modèles d'échange d'information  
(IEC 61400-25-3:2015)

Windenergieanlagen - Teil 25 3: Kommunikation für die  
Überwachung und Steuerung von Windenergieanlagen -  
Dienste-Modelle für den Informationsaustausch  
(IEC 61400-25-3:2015)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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

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

**EN 61400-25-3:2015****European foreword**

The text of document 88/540/FDIS, future edition 2 of IEC 61400-25-3, prepared by IEC TC 88 "Wind turbines" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61400-25-3:2015.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2016-05-20
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2018-08-04

This document supersedes EN 61400-25-3:2007.

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**Endorsement notice**

The text of the International Standard IEC 61400-25-3:2015 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 61850-7-3

NOTE Harmonized as EN 61850-7-3.

IEC 61850-7-4

NOTE Harmonized as EN 61850-7-4.

## Annex ZA

### (normative)

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

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

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here:  
[www.cenelec.eu](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61400-25-1	-	Wind turbines -- Part 25-1: Communications for monitoring and control of wind power plants - Overall description of principles and models	EN 61400-25-1	-
IEC 61400-25-2	2015	Wind turbines -- Part 25-2: Communications for monitoring and control of wind power plants - Information models	EN 61400-25-2	2015
IEC 61400-25-4	2008	Wind turbines -- Part 25-4: Communications for monitoring and control of wind power plants - Mapping to communication profile	EN 61400-25-4	2008
IEC 61850-7-2	2010	Communication networks and systems for power utility automation - Part 7-2: Basic information and communication structure - Abstract communication service interface (ACSI)	EN 61850-7-2	2010

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IEC 61400-25-3

Edition 2.0 2015-06

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



**Wind turbines – Part 25-3: Communications for monitoring and control of wind power plants – Information exchange models**

**Eoliennes – Partie 25-3: Communications pour la surveillance et la commande des centrales éoliennes – Modèles d'échange d'information**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## WIND TURBINES –

**Part 25-3: Communications for monitoring  
and control of wind power plants –  
Information exchange models**

## FOREWORD

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International Standard IEC 61400-25-3 has been prepared by IEC technical committee 88: Wind turbines.

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

FDIS	Report on voting
88/540/FDIS	88/552/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.

This second edition cancels and replaces the first edition published in 2006.

The scope of revision includes:

- Harmonization with service models in Edition 2 of IEC 61850-7-2.
- Reduction of overlap between standards and simplification by increased referencing.

This edition includes the following significant technical changes with respect to the previous edition:

- a) Add subscription and remove subscription services have been removed.
- b) Tables in Clause 9 indicating expected services have been replaced by tables in a new Annex D including ACSI conformance statements for clients and servers.
- c) Technical issues ("Tissues") for IEC 61850-7-2 edition 2 have been considered and changes have been made accordingly.

Technical issues ("Tissues"), as collected by the IEC 61400-25 users group USE61400-25, have been considered, but no technical issues were registered for edition 1.

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.

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## INTRODUCTION

The IEC 61400-25 series defines communications for monitoring and control of wind power plants. The modeling approach of the IEC 61400-25 series has been selected to provide abstract definitions of classes and services such that the specifications are independent of specific protocol stacks, implementations, and operating systems. The mapping of these abstract classes and services to a specific communication profile is not inside the scope of this part (IEC 61400-25-3) but inside the scope of IEC 61400-25-4.

This part of IEC 61400-25 defines services of the model of the information exchange of intelligent electronic devices in wind power plants. The services are referred to as the abstract communication service interface (ACSI). The ACSI has been defined so as to be independent of the underlying communication systems.

The information exchange model is defined in terms of

- a hierarchical class model of all information that can be accessed,
- information exchange services that operate on these classes,
- parameters associated with each information exchange service.

The ACSI description technique abstracts away from all the different approaches to implement the cooperation of the various devices.

These abstract service definitions are mapped into concrete object definitions that are to be used for a particular protocol. Mapping to specific protocol stacks is specified in IEC 61400-25-4.

NOTE 1 Abstraction in ACSI has two meanings. Firstly, only those aspects of a real device (for example, a rotor) or a real function that are visible and accessible over a communication network are modelled. This abstraction leads to the hierarchical class models and their behaviour defined in IEC 61400-25-2. Secondly, the ACSI abstracts from the aspect of concrete definitions on how the devices exchange information; only a conceptual cooperation is defined. The concrete information exchange is defined in IEC 61400-25-4.

NOTE 2 Performance of the IEC 61400-25 series implementations are application specific. The IEC 61400-25 series does not guarantee a certain level of performance. This is beyond the scope of the IEC 61400-25 series. However, there is no underlying limitation in the communications technology to prevent high speed application (millisecond level responses).