

# **SLOVENSKI STANDARD**

## **SIST EN IEC 60034-4-1:2019**

**01-marec-2019**

**Nadomešča:**  
**SIST EN 60034-4:2008**

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**Električni rotacijski stroji - 4-1. del: Metode za določanje parametrov sinhronskih strojev s preskusi (IEC 60034-4-1:2018)**

Rotating electrical machines - Part 4-1: Methods for determining synchronous machine quantities from tests (IEC 60034-4-1:2018)

Drehende elektrische Maschinen - Teil 4-1: Verfahren zur Ermittlung der Kenngrößen von Synchronmaschinen durch Messungen (IEC 60034-4-1:2018)

Machines électriques tournantes - Partie 4-1: Méthodes pour la détermination, à partir d'essais, des grandeurs des machines synchrones (IEC 60034-4-1:2018)

**Ta slovenski standard je istoveten z: EN IEC 60034-4-1:2018**

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**ICS:**

29.160.01	Rotacijski stroji na splošno	Rotating machinery in general
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**SIST EN IEC 60034-4-1:2019**

**en,fr,de**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN IEC 60034-4-1**

August 2018

ICS 29.160

Supersedes EN 60034-4:2008

English Version

**Rotating electrical machines - Part 4-1: Methods for determining electrically excited synchronous machine quantities from tests (IEC 60034-4-1:2018)**

Machines électriques tournantes - Partie 4-1: Méthodes pour la détermination, à partir d'essais, des grandeurs des machines synchrones à excitation électrique (IEC 60034-4-1:2018)

Drehende elektrische Maschinen - Teil 4-1: Verfahren zur Ermittlung der Kenngrößen von Synchronmaschinen durch Messungen (IEC 60034-4-1:2018)

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SIST EN IEC 60034-4-1:2019

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European Committee for Electrotechnical Standardization  
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Europäisches Komitee für Elektrotechnische Normung

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

**EN IEC 60034-4-1:2018 (E)****European foreword**

The text of document 2/1829/CDV, future edition 1 of IEC 60034-4-1, prepared by IEC/TC 2 "Rotating machinery" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60034-4-1:2018.

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) 2019-03-01
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-06-01

This document supersedes EN 60034-4:2008

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The text of the International Standard IEC 60034-4-1:2018 was approved by CENELEC as a European Standard without any modification.

## Annex ZA

(normative)

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

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1 Where 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 60034-1	2017	Rotating electrical machines - Part 1:- Rating and performance		-
IEC 60034-2-1	-	Rotating electrical machines - Part 2-1:EN 60034-2-1 Standard methods for determining losses and efficiency from tests (excluding machines for traction vehicles)		-
IEC 60051	series	Direct acting indicating analogue electrical measuring instruments and their accessories	EN 60051	series

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IEC 60034-4-1

Edition 1.0 2018-04

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



**Rotating electrical machines –  
Part 4-1: Methods for determining electrically excited synchronous machine  
quantities from tests**

**Machines électriques tournantes –  
Partie 4-1: Méthodes pour la détermination, à partir d'essais, des grandeurs  
des machines synchrones à excitation électrique**

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

ICS 29.160.01

ISBN 978-2-8322-5634-3

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## ROTATING ELECTRICAL MACHINES –

**Part 4-1: Methods for determining electrically excited synchronous machine quantities from tests**

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International Standard IEC 60034-4-1 has been prepared by IEC technical committee 2: Rotating machinery.

IEC 60034-4-1 first edition cancels and replaces the third edition of IEC 60034-4 published in 2008. This edition constitutes a technical revision.

This publication includes the following significant technical changes with respect to IEC 60034-4 edition 3:

- a) improvement of several procedures with respect to evaluation of quantities;
- b) deletion of uncommon procedures;
- c) applicability of procedures for permanent magnet machines.

The text of this International Standard is based on the following documents:

CDV	Report on voting
2/1829/CDV	2/1869/RVC

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

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

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quotient of the applied armature voltage and the sustained average armature current, the machine being at standstill

**3.2****direct-axis synchronous reactance**

quotient of the sustained value of that fundamental AC component of armature voltage, which is produced by the total direct-axis primary flux due to direct-axis armature current, and the value of the fundamental AC component of this current, the machine running at rated speed

[SOURCE: IEC 60050-411:1996, 411-50-07]

**3.3****direct-axis transient reactance**

quotient of the initial value of a sudden change in that fundamental AC component of armature voltage, which is produced by the total direct-axis primary flux, and the value of the simultaneous change in fundamental AC component of direct-axis armature current, the machine running at rated speed and the high decrement components during the first cycles being excluded

[SOURCE: IEC 60050-411:1996, 411-50-09]

**3.4****direct-axis sub-transient reactance**

quotient of the initial value of a sudden change in that fundamental AC component of armature voltage, which is produced by the total direct-axis armature flux, and the value of the simultaneous change in fundamental AC component of direct-axis armature current, the machine running at rated speed

[SOURCE: IEC 60050-411:1996, 411-50-11]

**3.5****quadrature-axis synchronous reactance**

quotient of the sustained value of that fundamental AC component of armature voltage, which is produced by the total quadrature-axis primary flux due to quadrature-axis armature current, and the value of the fundamental AC component of this current, the machine running at rated speed

[SOURCE: IEC 60050-411:1996, 411-50-08]

**3.6****quadrature-axis transient reactance**

quotient of the initial value of a sudden change in that fundamental AC component of armature voltage, which is produced by the total quadrature-axis armature winding flux, and the value of the simultaneous change in fundamental AC component of quadrature-axis armature current, the machine running at rated speed and the high decrement components during the first cycles being excluded

[SOURCE: IEC 60050-411:1996, 411-50-10]

**3.7****quadrature-axis sub-transient reactance**

quotient of the initial value of a sudden change in that fundamental AC component of armature voltage, which is produced by the total quadrature-axis primary flux and the value of the simultaneous change in fundamental AC component of quadrature-axis armature current, the machine running at rated speed

[SOURCE: IEC 60050-411:1996, 411-50-12]

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