

STN	Točivé elektrické stroje Časť 4-1: Metódy určovania veličín elektricky budených synchronných strojov zo skúšok	STN EN IEC 60034-4-1 35 0000
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Rotating electrical machines - Part 4-1: Methods for determining electrically excited synchronous machine quantities from tests

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 12/18

Obsahuje: EN IEC 60034-4-1:2018, IEC 60034-4-1:2018

Oznámením tejto normy sa od 01.06.2021 ruší
STN EN 60034-4 (35 0000) z februára 2009

127607

EUROPEAN STANDARD

EN IEC 60034-4-1

NORME EUROPÉENNE

EUROPÄISCHE NORM

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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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.

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<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: Standard methods for determining losses and efficiency from tests (excluding machines for traction vehicles)	EN 60034-2-1	-
IEC 60051	series	Direct acting indicating analogue electrical measuring instruments and their accessories	EN 60051	series



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**



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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
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ICS 29.160.01

ISBN 978-2-8322-5634-3

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CONTENTS

FOREWORD.....	6
1 Scope.....	8
2 Normative references	8
3 Terms and definitions	8
4 Symbols and units	14
5 Overview of tests	15
6 Test procedures	17
6.1 General.....	17
6.1.1 Instrumentation requirements	17
6.1.2 Excitation system requirements	18
6.1.3 Test conditions	18
6.1.4 Per unit base quantities	18
6.1.5 Conventions and assumptions	19
6.1.6 Consideration of magnetic saturation.....	19
6.2 Direct measurements of excitation current at rated load.....	20
6.3 Direct-current winding resistance measurements	21
6.4 No-load saturation test.....	21
6.4.1 Test procedure	21
6.4.2 No-load saturation characteristic determination	22
6.5 Sustained three-phase short-circuit test	22
6.5.1 Test procedure	22
6.5.2 Three-phase sustained short-circuit characteristic	22
6.6 Motor no-load test.....	23
6.7 Over-excitation test at zero power-factor.....	23
6.8 Negative excitation test.....	23
6.9 On-load test measuring the load angle.....	23
6.10 Low slip test.....	24
6.11 Sudden three-phase short-circuit test.....	24
6.12 Voltage recovery test	25
6.13 Suddenly applied short-circuit test following disconnection from line	25
6.14 Direct current decay test in the armature winding at standstill	26
6.15 Applied voltage test with the rotor in direct and quadrature axis positions	26
6.16 Applied voltage test with the rotor in arbitrary position	27
6.17 Single phase voltage test applied to the three phases	28
6.18 Line-to-line sustained short-circuit test.....	28
6.19 Line-to-line and to neutral sustained short-circuit test	28
6.20 Negative-phase sequence test	29
6.21 Field current decay test, with the armature winding open-circuited	29
6.21.1 Test at rated speed.....	29
6.21.2 Test at standstill	30
6.22 Applied voltage test with rotor removed	30
6.23 No-load retardation test	31
6.24 Locked rotor test.....	31
6.25 Asynchronous operation during the low-voltage test.....	31
6.26 Over-excitation test at zero power factor and variable armature voltage	32
6.27 Applied variable frequency voltage test at standstill	32

7	Determination of quantities	34
7.1	Analysis of recorded data.....	34
7.1.1	No-load saturation and three-phase, sustained short-circuit curves	34
7.1.2	Sudden three-phase short-circuit test	35
7.1.3	Voltage recovery test.....	38
7.1.4	Direct current decay in the armature winding at standstill	39
7.1.5	Suddenly applied excitation test with armature winding open-circuited.....	41
7.2	Direct-axis synchronous reactance.....	41
7.2.1	From no-load saturation and three-phase sustained short-circuit test.....	41
7.2.2	From motor no-load test	41
7.2.3	From on-load test measuring the load angle	42
7.3	Direct-axis transient reactance.....	42
7.3.1	From sudden three-phase short-circuit test.....	42
7.3.2	From voltage recovery test	42
7.3.3	From DC decay test in the armature winding at standstill.....	43
7.3.4	Calculation from test values.....	43
7.4	Direct-axis sub-transient reactance.....	43
7.4.1	From sudden three-phase short-circuit test.....	43
7.4.2	From voltage recovery test	43
7.4.3	From applied voltage test with the rotor in direct and quadrature axis	43
7.4.4	From applied voltage test with the rotor in arbitrary position	44
7.5	Quadrature-axis synchronous reactance	44
7.5.1	From negative excitation test.....	44
7.5.2	From low slip test	45
7.5.3	From on-load test measuring the load angle	46
7.6	Quadrature-axis transient reactance	47
7.6.1	From direct current decay test in the armature winding at standstill	47
7.6.2	Calculation from test values.....	47
7.7	Quadrature-axis sub-transient reactance.....	47
7.7.1	From applied voltage test with the rotor in direct and quadrature position.....	47
7.7.2	From applied voltage test with the rotor in arbitrary position	47
7.8	Zero-sequence reactance	48
7.8.1	From single-phase voltage application to the three phases	48
7.8.2	From line-to-line and to neutral sustained short-circuit test.....	48
7.9	Negative-sequence reactance	48
7.9.1	From line-to-line sustained short-circuit test	48
7.9.2	From negative-phase sequence test	49
7.9.3	Calculation from test values.....	49
7.9.4	From direct-current decay test at standstill	49
7.10	Armature leakage reactance	50
7.11	Potier reactance.....	50
7.12	Zero-sequence resistance.....	51
7.12.1	From single-phase voltage test applied to the three phases	51
7.12.2	From line-to-line and to neutral sustained short-circuit test.....	51
7.13	Positive-sequence armature winding resistance	52
7.14	Negative-sequence resistance	52
7.14.1	From line-to-line sustained short-circuit test	52
7.14.2	From negative-phase sequence test	52

7.15	Armature and excitation winding resistance	52
7.16	Direct-axis transient short-circuit time constant	53
7.16.1	From sudden three-phase short-circuit test	53
7.16.2	From direct current decay test at standstill	53
7.17	Direct-axis transient open-circuit time constant	53
7.17.1	From field current decay at rated speed with armature winding open	53
7.17.2	From field current decay test at standstill with armature winding open	53
7.17.3	From voltage recovery test	54
7.17.4	From direct-current decay test at standstill	54
7.18	Direct-axis sub-transient short-circuit time constant	54
7.19	Direct-axis sub-transient open-circuit time constant	54
7.19.1	From voltage recovery test	54
7.19.2	From direct-current decay test at standstill	54
7.20	Quadrature-axis transient short-circuit time constant	54
7.20.1	Calculation from test values	54
7.20.2	From direct-current decay test at standstill	54
7.21	Quadrature-axis transient open-circuit time constant	54
7.22	Quadrature-axis sub-transient short-circuit time constant	54
7.22.1	Calculation from test values	54
7.22.2	Determination from direct-current decay test at standstill	55
7.23	Quadrature-axis sub-transient open-circuit time constant	55
7.24	Armature short-circuit time constant	55
7.24.1	From sudden three-phase short-circuit test	55
7.24.2	Calculation from test values	55
7.25	Rated acceleration time and stored energy constant	55
7.26	Rated excitation current	56
7.26.1	From direct measurement	56
7.26.2	Potier diagram	56
7.26.3	ASA diagram	57
7.26.4	Swedish diagram	58
7.27	Excitation current referred to rated armature sustained short-circuit current	59
7.27.1	From sustained three-phase short-circuit test	59
7.27.2	From over-excitation test at zero power factor	59
7.28	Frequency response characteristics	60
7.28.1	General	60
7.28.2	From asynchronous operation at reduced voltage	61
7.28.3	From applied variable frequency voltage test at standstill	61
7.28.4	From direct current decay test in the armature winding at standstill	63
7.29	Short-circuit ratio	63
7.30	Rated voltage regulation	63
7.30.1	From direct measurement	63
7.30.2	From no-load saturation characteristic and known field current at rated load	63
7.31	Initial starting impedance of synchronous motors	64
Annex A (informative)	Testing cross-reference	65
Annex B (informative)	Calculation scheme for frequency response characteristics	68
B.1	Basics	68
B.2	Parameter calculation	68
Annex C (informative)	Conventional electrical machine model	70

Bibliography.....	72
Figure 1 – Schematic for DC decay test at standstill	26
Figure 2 – Circuit diagram for line-to-line short-circuit test	28
Figure 3 – Circuit diagram for line-to-line and to neutral sustained short-circuit test.....	29
Figure 4 – Search coil installation with rotor removed	30
Figure 5 – Power and current versus slip (example).....	32
Figure 6 – Schematic for variable frequency test at standstill	33
Figure 7 – Recorded quantities from variable frequency test at standstill (example).....	34
Figure 8 – Combined saturation and short-circuit curves.....	35
Figure 9 – Determination of intermediate points on the envelopes.....	35
Figure 10 – Determination of transient component of short-circuit current	37
Figure 11 – Determination of sub-transient component of short-circuit current	37
Figure 12 – Transient and sub-transient component of recovery voltage	39
Figure 13 – Semi-logarithmic plot of decay currents.....	40
Figure 14 – Suddenly applied excitation with armature winding open-circuited	41
Figure 15 – No-load e.m.f. and excitation current for one pole-pitch slip	45
Figure 16 – Current envelope from low-slip test	46
Figure 17 – Determination of Potier reactance	51
Figure 18 – Potier's diagram	56
Figure 19 – ASA diagram	57
Figure 20 – Swedish diagram.....	58
Figure 21 – Excitation current from over-excitation test at zero power factor.....	60
Figure 22 – Frequency response characteristics at low frequencies (example).....	61
Figure C.1 – Equivalent circuit model of a salient pole machine	70
Table 1 – Test methods and cross-reference table.....	15
Table A.1 – Test cross-reference	65

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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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ROTATING ELECTRICAL MACHINES –

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

1 Scope

This part of IEC 60034 applies to three-phase synchronous machines of 1 kVA rating and larger.

Most of the methods are intended to be used for machines having an excitation winding with slip-rings and brushes for their supply. Synchronous machines with brushless excitation require special effort for some of the tests. For machines with permanent magnet excitation, there is a limited applicability of the described tests, and special precautions should be taken against irreversible demagnetization.

Excluded are axial-field machines and special synchronous machines such as inductor type machines, transversal flux machines and reluctance machines.

It is not intended that this document be interpreted as requiring any or all of the tests described therein on any given machine. The particular tests to be carried out are subject to agreement between manufacturer and customer.

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IEC 60034-2-1, *Rotating electrical machines – Part 2-1: Standard methods for determining losses and efficiency from tests (excluding machines for traction vehicles)*

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