



BSI Standards Publication

Rotating electrical machines

Part 18-1: Functional evaluation of insulation systems — General guidelines

National foreword

This British Standard is the UK implementation of EN IEC 60034-18-1:2023. It is identical to IEC 60034-18-1:2022. It supersedes BS EN 60034-18-1:2010, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PEL/2, Rotating electrical machinery.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Amendments/corrigenda issued since publication

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English Version

Rotating electrical machines - Part 18-1: Functional evaluation of
insulation systems - General guidelines
(IEC 60034-18-1:2022)

Machines électriques tournantes - Partie 18-1: Évaluation
fonctionnelle des systèmes d'isolation - Lignes directrices
générales
(IEC 60034-18-1:2022)

Drehende elektrische Maschinen - Teil 18-1: Funktionelle
Bewertung von Isoliersystemen - Allgemeine Richtlinien
(IEC 60034-18-1:2022)

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

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European foreword

The text of document 2/2113/FDIS, future edition 3 of IEC 60034-18-1, prepared by IEC/TC 2 "Rotating machinery" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60034-18-1:2023.

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) 2023-10-26
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2026-01-26

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In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 60216 (series) NOTE Approved as EN 60216 (series)

Annex A (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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60034-1	-	Rotating electrical machines - Part 1: Rating and performance	EN 60034-1 ¹	-
IEC 60034-18-21	-	Rotating electrical machines - Part 18-21: Functional evaluation of insulation systems - Test procedures for wire-wound windings - Thermal evaluation and classification	EN 60034-18-21	-
IEC 60034-18-31	-	Rotating electrical machines - Part 18-31: Functional evaluation of insulation systems - Test procedures for form-wound windings - Thermal evaluation and classification of insulation systems used in rotating machines	EN 60034-18-31	-
IEC 60034-18-32	-	Rotating electrical machines - Part 18-32: Functional evaluation of insulation systems (Type II) - Electrical endurance qualification procedures for form-wound windings	EN IEC 60034-18-32	-
IEC/TS 60034-18-33	-	Rotating electrical machines - Part 18-33: Functional evaluation of insulation systems - Test procedures for form-wound windings - Multifactor evaluation by endurance under simultaneous thermal and electrical stresses	CLC/TS 60034-18-33	-
IEC 60034-18-34	-	Rotating electrical machines - Part 18-34: Functional evaluation of insulation systems - Test procedures for form-wound windings - Evaluation of thermomechanical endurance of insulation systems	EN 60034-18-34	-

¹ Under preparation. Stage at the time of publication: FprEN 60034-1 and FprEN 60034-1/prAA.

EN IEC 60034-18-1:2023 (E)

IEC 60034-18-41	2014	Rotating electrical machines - Part 18-41: Partial discharge free electrical insulation systems (Type I) used in rotating electrical machines fed from voltage converters - Qualification and quality control tests	EN 60034-18-41	2014
+ A1	2019		+ A1	2019
IEC 60034-18-42	-	Rotating electrical machines - Part 18-42: Partial discharge resistant electrical insulation systems (Type II) used in rotating electrical machines fed from voltage converters - Qualification tests	EN 60034-18-42	-
IEC 60034-27-3	-	Rotating electrical machines - Part 27-3: Dielectric dissipation factor measurement on stator winding insulation of rotating electrical machines	EN 60034-27-3	-
IEC 60085	-	Electrical insulation - Thermal evaluation and designation	EN 60085	-
IEC 60493-1	-	Guide for the statistical analysis of ageing - test data - Part 1: Methods based on mean values of normally distributed test results		-
IEC 60505	2011	Evaluation and qualification of electrical insulation systems	EN 60505	2011
IEC 61858-1	2014	Electrical insulation systems - Thermal evaluation of modifications to an established electrical insulation system (EIS) - Part 1: Wire-wound winding EIS	EN 61858-1	2014
IEC 61858-2	2014	Electrical insulation systems - Thermal evaluation of modifications to an established electrical insulation system (EIS) - Part 2: Form-wound EIS	EN 61858-2	2014
IEC 62539	-	Guide for the statistical analysis of electrical insulation breakdown data	-	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ROTATING ELECTRICAL MACHINES –

**Part 18-1: Functional evaluation of insulation systems –
General guidelines**

FOREWORD

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IEC 60034-18-1 has been prepared by IEC technical committee 2: Rotating machinery. It is an International Standard.

This third edition cancels and replaces the second edition published in 2010. This edition constitutes a technical revision.

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

- a) provides general guidelines for functional evaluation of different types of windings as before but incorporates those changes, which have been introduced for the electrical qualification and evaluation of windings which are electrically stressed by converter-supply;
- b) is now focused on general guidelines with all technical details of procedures and qualification principles moved to the subsequent parts;