BS EN IEC 60034-33:2022

BSI Standards Publication

Rotating electrical machines

Part 33: Synchronous hydrogenerators including motor-generators — Specific requirements (IEC 60034-33:2022)

bsi.

National foreword

This British Standard is the UK implementation of EN IEC 60034-33:2022. It is identical to IEC 60034-33:2022.

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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English Version

Rotating electrical machines - Part 33: Synchronous hydrogenerators including motor-generators - Specific requirements (IEC 60034-33:2022)

Machines électriques tournantes - Partie 33 : Hydro-génératrices synchrones y compris les groupes moteur-générateurs - Exigences spécifiques (IEC 60034-33:2022)

Drehende elektrische Maschinen - Teil 33: Besondere Anforderungen an Synchrongeneratoren, angetrieben durch hydraulische Turbinen, einschließlich Motor-Generatoren (IEC 60034-33:2022)

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

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

European foreword

The text of document 2/2081/FDIS, future edition 1 of IEC 60034-33, prepared by IEC/TC 2 "Rotating machinery" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60034-33:2022.

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)	2022-12-04
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2025-03-04

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Endorsement notice

The text of the International Standard IEC 60034-33:2022 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/TS 60034-32 NOTE Harmonized as CLC IEC/TS 60034-32

ISO 5801 NOTE Harmonized as EN ISO 5801

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ROTATING ELECTRICAL MACHINES –

Part 33: Synchronous hydrogenerators including motor-generators – Specific requirements

FOREWORD

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IEC 60034-33 has been prepared by IEC technical committee 2: Rotating machinery. It is an International Standard.

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

Draft	Report on voting
2/2081/FDIS	2/2088/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts in the IEC 60034 series, published under the general title *Rotating electrical machines*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

ROTATING ELECTRICAL MACHINES –

Part 33: Synchronous hydrogenerators including motor-generators – Specific requirements

1 Scope

This part of IEC 60034 applies to three-phase salient-pole synchronous generators and synchronous motor-generators for hydraulic turbine and pump-turbine applications, that have rated frequency of 50 Hz or 60 Hz, rated output of 10 MVA and above, pole pair number 3 and above, and rated voltage of 6 kV and above.

This document supplements basic requirements for rotating machines given in IEC 60034-1.

2 Normative references

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.

IEC 60034-1, *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)*

IEC 60034-2-2, *Rotating electrical machines – Part 2-2: Specific methods for determining separate losses of large machines from tests – Supplement to IEC 60034-2-1*

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

IEC 60034-15, *Rotating electrical machines – Part 15: Impulse voltage withstand levels of form-wound stator coils for rotating a.c. machines*

IEC 60034-18-1, *Rotating electrical machines – Part 18-1: Functional evaluation of insulation systems – General guidelines*

IEC 60034-18-32, *Rotating electrical machines – Part 18-32: Functional evaluation of insulation systems – Test procedures for form-wound windings – Evaluation by electrical endurance*

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*

IEC 60034-27-1, *Rotating electrical machines – Part 27-1: Off-line partial discharge measurements on the winding insulation*

IEC 60034-27-3, *Rotating electrical machines – Part 27-3: Dielectric dissipation factor measurement on stator winding insulation of rotating electrical machines*