

**Rotating electrical machines - Part 22: AC generators for
reciprocating internal combustion (RIC) engine driven
generating sets**

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 60034-22:2010 sisaldab Euroopa standardi EN 60034-22:2009 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 28.02.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

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Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 60034-22:2010 consists of the English text of the European standard EN 60034-22:2009.

This standard is ratified with the order of Estonian Centre for Standardisation dated 28.02.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

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English version

**Rotating electrical machines -
Part 22: AC generators for reciprocating internal combustion (RIC)
engine driven generating sets
(IEC 60034-22:2009)**

Machines électriques tournantes -
Partie 22: Génératrices à courant alternatif
pour groupes électrogènes
entraînés par un moteur
à combustion interne
(CEI 60034-22:2009)

Drehende elektrische Maschinen -
Teil 22: Wechselstromgeneratoren
für Stromerzeugungsaggregate
mit Hubkolben-Verbrennungsmotoren
(IEC 60034-22:2009)

This European Standard was approved by CENELEC on 2009-11-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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

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CENELEC

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

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Foreword

The text of document 2/1568/FDIS, future edition 2 of IEC 60034-22, prepared by IEC TC 2, Rotating machinery, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60034-22 on 2009-11-01.

This European Standard supersedes EN 60034-22:1997.

The technical changes with regard to EN 60034-22:1997 include:

- Clause 2: The standards which were not referenced in the text have been deleted.
- Clause 3: Technical and editorial changes to many of the definitions have been made.
- Clause 4: In the NOTE, the quantity T_L has been replaced by TL .
- Clause 7: Technical and editorial changes to many clauses have been made.
- Clause 9: Table 1 has been revised.
- Annex A: This annex has been revised.

The following dates were fixed:

- latest date by which the EN has to be implemented
at national level by publication of an identical
national standard or by endorsement (dop) 2010-08-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2012-11-01

Annex ZA have been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60034-22:2009 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 60027-1	NOTE Harmonized as EN 60027-1:2006 (not modified).
IEC 60027-4	NOTE Harmonized as EN 60027-4:2007 (not modified).
IEC 60034-26	NOTE Harmonized as EN 60034-26:2006 (not modified).

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60034-1	2004	Rotating electrical machines - Part 1: Rating and performance	EN 60034-1	2004
IEC 60085	- ¹⁾	Electrical insulation - Thermal evaluation and designation	EN 60085	2008 ²⁾
CISPR 11 (mod)	- ¹⁾	Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement	EN 55011	2009 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

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ROTATING ELECTRICAL MACHINES –

Part 22: AC generators for reciprocating internal combustion (RIC) engine driven generating sets

1 Scope

This part of IEC 60034 establishes the principal characteristics of a.c. generators under the control of their voltage regulators when used for reciprocating internal combustion (RIC) engine driven generating set applications and supplements the requirements given in IEC 60034-1. It covers the use of such generators for land and marine use, but excludes generating sets used on aircraft or used to propel land vehicles and locomotives.

NOTE 1 For some specific applications (e.g. essential hospital supplies, high-rise buildings, etc.) supplementary requirements may be necessary. The provisions of this standard should be regarded as a basis for such requirements.

NOTE 2 Attention is drawn to the need to take note of additional regulations or requirements imposed by various regulatory bodies. Such regulations or requirements may form the subject of agreement between the customer and the manufacturer when conditions of use of the end product invoke such requirements.

NOTE 3 Examples of regulatory authorities:

- classification societies, for generating sets used on ships and offshore installations;
- government agencies;
- inspection agencies, local utilities, etc.

Annex A discusses the behaviour of generators covered by this standard when subjected to sudden load changes.

2 Normative references

The following referenced documents are indispensable for the application 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 60034-1:2004, *Rotating electrical machines – Part 1: Rating and performance*

IEC 60085, *Electrical insulation – Thermal evaluation and designation*

CISPR 11, *Industrial, scientific and medical equipment – Radio-frequency disturbance characteristics – Limits and methods of measurement*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply:

NOTE 1 In this standard, suffix “N” is used for “rated” in accordance with IEC 60027-1 and IEC 60027-4 whereas in ISO 8528, suffix “r” is so used.

NOTE 2 Voltage terms relate to a generator running at constant (rated) speed under the control of the normal excitation and voltage control system.