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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 60034-1/A1

May 1998

ICS 29.160.01

Descriptors: Rotating electrical machines, rating and performance

English version

Rotating electrical machines
Part 1: Rating and performance
(IEC 60034-1:1996/A1:1997)

Machines électriques tournantes
Partie 1: Caractéristiques assignées et
caractéristiques de fonctionnement
(CEI 60034-1:1996/A1:1997)

Drehende elektrische Maschinen
Teil 1: Bemessung und Betriebsverhalten
(IEC 60034-1:1996/A1:1997)

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This amendment A1 modifies the European Standard EN 60034-1:1998; it was approved by CENELEC on 1998-04-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

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Ref. No. EN 60034-1:1998/A1:1998 E

Foreword

The text of document 2/956/FDIS, future amendment 2 to IEC 60034-1:1994, prepared by IEC TC 2, Rotating machinery, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A2 to EN 60034-1:1995.

The text of the new International Standard IEC 60034-1:1996, with common modifications prepared by the Technical Committee CENELEC TC 2, Rotating machinery, was approved by CENELEC as EN 60034-1:1998.

As the text of amendment 2 to IEC 60034-1:1994 is also that of amendment 1 to IEC 60034-1:1996, the Technical Board of CENELEC has approved this text as amendment A1 to EN 60034-1:1998 on 1998-04-01.

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1999-04-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2000-04-01

Annexes designated "normative" are part of the body of the standard.

In this standard, annex ZA is normative.

Annex ZA has been added by CENELEC.

[SIST EN 60034-1:2003/A1:2003](https://standards.iteh.ai/catalog/standards/sist/299c26d3-dcfa-47b6-8195-243cda82b000/iec-60034-1-1996-a1-2003)

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Endorsement notice

The text of amendment 1:1997 to the International Standard IEC 60034-1:1996 was approved by CENELEC as an amendment to the European Standard without any modification.



Annex ZA (normative)

Normative references to international publications
with their corresponding European publications

Addition:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60204-1 (mod)	1992	Safety of machinery Electrical equipment of machines Part 1: General requirements	EN 60204-1 ¹⁾ + corr. December	1992 1993
CISPR 11 (mod)	1990	Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) radio-frequency equipment	EN 55011 ²⁾	1991
CISPR 14-1	1993	Electromagnetic compatibility Requirements for household appliances, electric tools and similar apparatus Part 1: Emission Product family standard	EN 55014-1	1993
CISPR 16	series	Specification for radio disturbance and immunity measuring apparatus and methods	-	-

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1) EN 60204-1 is superseded by EN 60204-1:1997 which is based on IEC 60204-1:1997.

2) EN 55011 is superseded by EN 55011:1998 which is based on CISPR 11:1997, mod.

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**NORME
INTERNATIONALE**

**CEI
IEC**

**INTERNATIONAL
STANDARD**

60034-1

1997-06

Amendement 2 à la CEI 60034-1, édition 9 (1994)
Amendement 1 à la CEI 60034-1, édition 10 (1996)

Machines électriques tournantes –

Partie 1:

**Caractéristiques assignées et caractéristiques
de fonctionnement**

(standards.iteh.ai)

Amendement 2 to IEC 60034-1, 9th edition (1994)

Amendement 1 to IEC 60034-1, 10th edition (1996)

Rotating electrical machines –

Part 1:

Rating and performance

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

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For price, see current catalogue

FOREWORD

This amendment has been prepared by IEC technical committee 2: Rotating machinery.

The text of this amendment is based on the following documents:

FDIS	Report on voting
2/956/FDIS	2/984/RVD

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

INTRODUCTION

This amendment 2 is issued in parallel with an equivalent amendment 1 to IEC 60034-1 (tenth edition) in order that the technical content of the two editions remains the same.

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1.2 Normative references

Insert, in the existing list, the titles of the following standards:

IEC 60204-1: 1992, *Electrical equipment of industrial machines – Part 1: General requirements*

CISPR 11: 1990, *Limits and methods of measurement of electromagnetic disturbance characteristics of industrial, scientific and medical (ISM) radio-frequency equipment*

CISPR 14: 1993, *Limits and methods of measurement of radio disturbance characteristics of electrical motor-operated and thermal appliances for household and similar purposes, electric tools and electric apparatus*

CISPR 16: *Specification for radio disturbance and immunity measuring apparatus and methods*

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18.3 Occasional excess current for commutator machines

Replace the first sentence of this subclause by the following:

A commutator machine shall be capable of withstanding, for 60 s, 1,5 times rated current under the appropriate combination of conditions as follows:

Delete item c).

19.1 Polyphase induction motors and d.c. motors (excluding motors in 19.2)

Replace the first paragraph of this subclause by the following:

The motors shall, whatever their duty and construction, be capable of withstanding for 15 s, without stalling or abrupt change in speed (under gradual increase of torque), an excess torque of at least 60 % of their rated torque, the voltage and frequency (induction motors) being maintained at their rated value.

NOTE – Higher torques are required for some motors manufactured according to IEC 60034-12.

For d.c. motors, the torque shall be expressed in terms of overload current; see 18.3.

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Add the following two new sections:

Section 14: Electromagnetic compatibility (EMC)

32 Electromagnetic compatibility (EMC)

The following requirements apply to rotating electrical machines with a rated voltage not exceeding 1 000 V a.c. or 1 500 V d.c., and which are intended for operation within the conditions specified below.

Electronic components mounted inside the rotating electrical machine and essential for its operation (for example rotating excitation devices) are part of the machine.

Requirements which are applicable to the final drive system and its components, for example power and control electronic equipment, coupled machines, monitoring devices etc., whether mounted inside or outside the machine, are outside the scope of this standard.

The limitations of clause 12 are fixed for steady-state operating conditions. Transients (such as starting) are not covered by this clause.

32.1 Immunity limits

The immunity limits of both a.c. and d.c. machines to variations and harmonics of the system voltage, and those of polyphase a.c. machines to unbalances of the connected system, are given in clause 12.

32.2 Emission limits

NOTE – The limits in the tables that follow are taken from CISPR 11 or CISPR 12.