



National Standards Authority of Ireland

IRISH STANDARD

I. S. EN 61800-4:2003

ICS 29.160.30  
29.200

ADJUSTABLE SPEED ELECTRICAL POWER  
DRIVE SYSTEMS  
PART 4: GENERAL REQUIREMENTS -  
RATING SPECIFICATIONS FOR A.C. POWER  
DRIVE SYSTEMS ABOVE 1 000 V A.C. AND  
NOT EXCEEDING 35 KV  
(IEC 61800-4:2002)

National Standards  
Authority of Ireland  
Dublin 9  
Ireland

Tel: (01) 807 3800  
Tel: (01) 807 3838

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EUROPEAN STANDARD

**EN 61800-4**

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 2003

ICS 29.160.30; 29.200

English version

**Adjustable speed electrical power drive systems  
Part 4: General requirements -  
Rating specifications for a.c. power drive  
systems above 1 000 V a.c. and not exceeding 35 kV  
(IEC 61800-4:2002)**

Entraînements électriques de puissance  
à vitesse variable  
Partie 4: Exigences générales -  
Spécifications de dimensionnement  
pour systèmes d'entraînements  
de puissance en courant alternatif  
de tension supérieure à 1 000 V alternatif  
et ne dépassant pas 35 kV  
(CEI 61800-4:2002)

Drehzahlveränderbare elektrische  
Antriebe  
Teil 4: Allgemeine Anforderungen -  
Festlegungen für die Bemessung  
von Wechselstrom-Antriebssystemen  
über 1 000 V AC und höchstens 35 kV  
(IEC 61800-4:2002)

This European Standard was approved by CENELEC on 2002-11-01. 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, 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**

### Foreword

The text of document 22G/99/FDIS, future edition 1 of IEC 61800-4, prepared by SC 22G, Semiconductor power converters for adjustable speed electric drive systems, of IEC TC 22, Power electronic systems and equipment, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61800-4 on 2002-11-01.

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) | 2003-08-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn   | dow) | 2005-11-01 |

Annexes designated "normative" are part of the body of the standard.  
Annexes designated "informative" are given for information only.  
In this standard, annex ZA normative and annexes A, B and C are informative.  
Annex ZA has been added by CENELEC.

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### Endorsement notice

The text of the International Standard IEC 61800-4:2002 was approved by CENELEC as a European Standard without any modification.

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## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

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 (mod)	- <sup>1)</sup>	Rotating electrical machines Part 1: Rating and performance	EN 60034-1 + corr. February A 11	1998 <sup>2)</sup> 2000 2002
IEC 60034-2	1972	Part 2: Methods for determining losses and efficiency of rotating electrical machinery from tests (excluding machines for traction vehicles)	EN 60034-2	1996
A1	1995		A1	1996
A2	1996		A2	1996
IEC 60034-2A	1974	Part 2: Methods for determining losses and efficiency of rotating electrical machinery from tests (excluding machines for traction vehicles) - First supplement: Measurement of losses by the calorimetric method.	EN 60034-2	1996
IEC 60034-5	- <sup>1)</sup>	Part 5: Degrees of protection provided by the integral design of rotating electrical machines (IP code) - Classification	EN 60034-5	2001 <sup>2)</sup>
IEC 60034-6	1991	Part 6: Methods of cooling (IC Code)	EN 60034-6	1993
IEC 60034-7	- <sup>1)</sup>	Part 7: Classification of types of construction, mounting arrangements and terminal box position (IM Code)	EN 60034-7	1993 <sup>2)</sup>
IEC 60034-9	1997	Part 9: Noise limits	EN 60034-9	1997
IEC 60034-14	1996	Part 14: Mechanical vibration of certain machines with shaft heights 56 mm and higher - Measurement, evaluation and limits of vibration	EN 60034-14	1996

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<sup>1)</sup> Undated reference.

<sup>2)</sup> Valid edition at date of issue.

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<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60034-17	1998	Part 17: Cage induction motors when fed from converters - Application guide	-	-
IEC 60034-18-31	1992	Part 18: Functional evaluation of insulation systems - Section 31: Test procedures for form-wound windings - Thermal evaluation and classification of insulation systems used in machines up to and including 50 MVA and 15 kV	EN 60034-18-31	1994
A1	1996		A1	1996
IEC 60038 (mod)	1983	IEC standard voltages <sup>3)</sup>	HD 472 S1 + corr. February	1989 2002
A1	1994		-	-
A2	1997		-	-
IEC 60050-111	1996	International Electrotechnical Vocabulary (IEV) Chapter 111: Physics and chemistry	-	-
IEC 60050-151	2001	Part 151: Electrical and magnetic devices	-	-
IEC 60050-351	1998	Part 351: Automatic control	-	-
IEC 60050-441	1984	Chapter 441: Switchgear, controlgear and fuses	-	-
A1	2000		-	-
IEC 60050-551	1998	Part 551: Power electronics	-	-
IEC 60050-601	1985	Chapter 601: Generation, transmission and distribution of electricity - General	-	-
A1	1998		-	-
IEC 60076-1 (mod)	1993	Power transformers Part 1: General	EN 60076-1 A11	1997 1997
A1	1999		A1 A12	2000 2002
IEC 60076-2 (mod)	1993	Part 2: Temperature rise	EN 60076-2	1997
IEC 60076-3 + Corr. December	2000 2000	Power transformers Part 3: Insulation levels, dielectric tests and external clearances in air	EN 60076-3	2001
IEC 60076-5	2000	Part 5: Ability to withstand short circuit	EN 60076-5	2000
IEC 60076-8	1997	Part 8: Application guide	-	-

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<sup>3)</sup> The title of HD 472 S1 is: "Nominal voltages for low voltage public electricity supply systems".

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