

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Semiconductor converters – General requirements and line commutated converters –
Part 1-1: Specification of basic requirements**

**Convertisseurs à semiconducteurs – Exigences générales et convertisseurs
commutés par le réseau –
Partie 1-1: Spécification des exigences de base**



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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

XD

ICS 29.200; 29.045

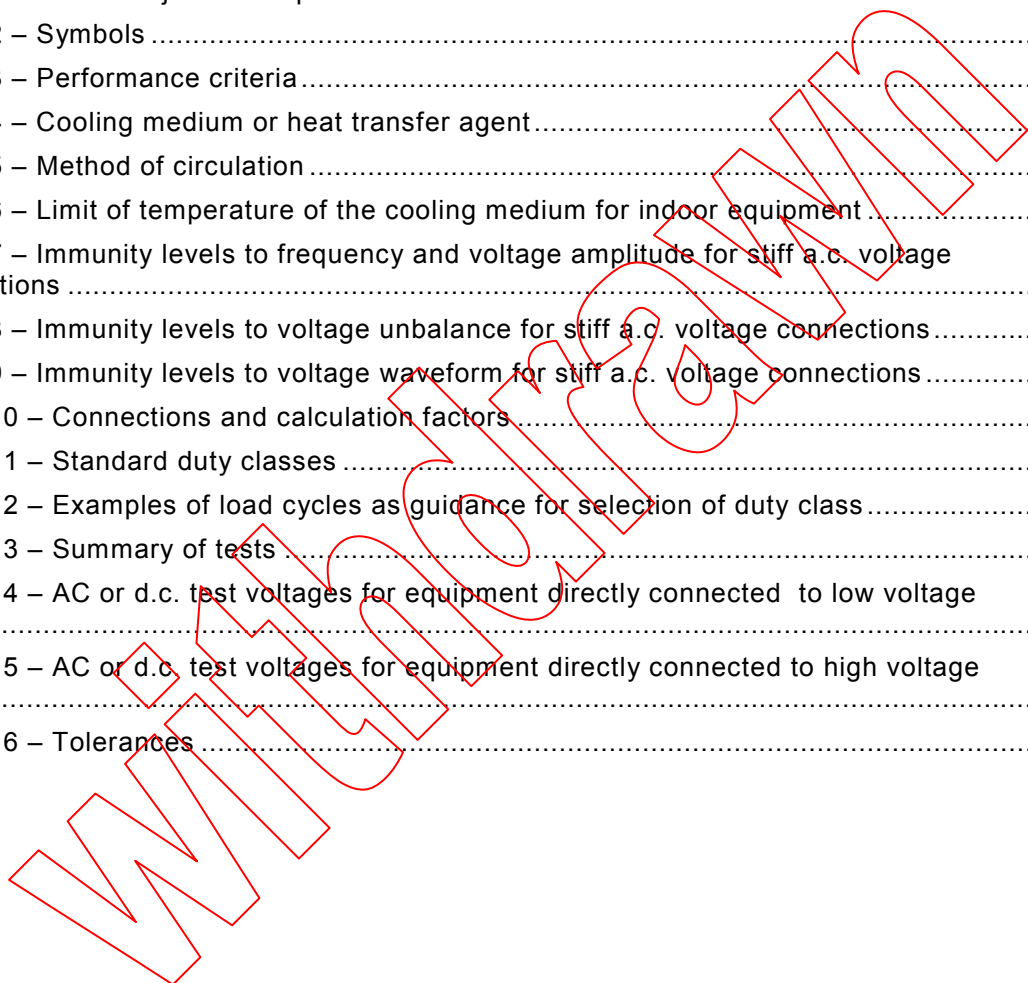
ISBN 978-2-88910-061-3

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SEMICONDUCTOR CONVERTERS –
GENERAL REQUIREMENTS AND LINE COMMUTATED CONVERTERS –****Part 1-1: Specification of basic requirements**

FOREWORD

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International Standard IEC 60146-1-1 has been prepared by IEC technical committee 22: Power electronic systems and equipment.

This fourth edition cancels and replaces the third edition published in 1991, Corrigendum 1 (1993) and Amendment 1 (1996). This fourth edition constitutes a technical revision.

This fourth edition introduces five main changes:

- a) re-edition of the whole standard according to the current directives;
- b) correction of definitions and addition of new terms, especially terms concerning EMC, harmonic distortion and insulation co-ordination;
- c) the service condition tolerances have been revised according to the IEC 61000 series;
- d) the insulation tests have been revised considering the insulation co-ordination;
- e) addition of three annexes.

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

FDIS	Report on voting
22/146/FDIS	22/149/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The main purposes of the IEC 60146-1 series are as follows.

Part 1-1, IEC 60146-1-1, Specification of basic requirements:

- to establish basic terms and definitions;
- to specify service conditions which influence the basis of rating;
- to specify test requirements for electronic power converters and assemblies, standard design, (for special design, see IEC/TR 60146-1-2);
- to specify basic performance requirements;
- to give application oriented requirements for semiconductor power converters.

Part 1-2, IEC/TR 60146-1-2, Application guide:

- to give additional information on test conditions and components (for example: semiconductor valve devices), when required for their use in semiconductor power converters, in addition to or as a modification on existing standards;
- to provide useful reference, calculation factors, formulae and diagrams pertaining to power converter practice.

Part 1-3, IEC 60146-1-3, Transformers and reactors:

- to give additional information on characteristics wherein converter transformers differ from ordinary power transformers. In all other respects, the rules specified in IEC 60076 shall apply to converter transformers, insofar as they are not in contradiction with this International Standard.

A list of all parts of the IEC 60146 series, under the general title: *Semiconductor converters*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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