

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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CONTENTS

| | |
|---|----|
| FOREWORD..... | 5 |
| INTRODUCTION..... | 7 |
| 1 Scope..... | 8 |
| 2 Normative references | 8 |
| 3 Terms and definitions | 9 |
| 3.1 Semiconductor devices and combinations | 9 |
| 3.2 Arms and connections..... | 13 |
| 3.3 Controllability of converter arms and quadrants of operation (on DC side) | 15 |
| 3.4 Commutation, quenching and commutation circuitry | 16 |
| 3.5 Commutation characteristics | 18 |
| 3.6 Rated values..... | 20 |
| 3.7 Specific voltages, currents and factors | 23 |
| 3.8 Cooling | 25 |
| 3.9 Service conditions tolerances and electromagnetic compatibility | 26 |
| 3.10 Harmonic distortion..... | 28 |
| 3.11 Definitions related to insulation co-ordination..... | 32 |
| 3.12 Principal letter symbols and subscripts | 35 |
| 4 Operation of semiconductor power equipment and valve devices..... | 38 |
| 4.1 Classification | 38 |
| 4.1.1 Semiconductor converter | 38 |
| 4.1.2 Semiconductor valve devices..... | 39 |
| 4.2 Basic operation of semiconductor converters | 39 |
| 4.2.1 Commutation | 39 |
| 4.2.2 Basic calculation factors for line commutated converters | 41 |
| 4.2.3 Disturbances and fault conditions | 43 |
| 5 Service conditions | 45 |
| 5.1 Code of identification for cooling method | 45 |
| 5.2 Environmental conditions | 45 |
| 5.2.1 Ambient air circulation | 45 |
| 5.2.2 Normal service conditions – Temperatures | 46 |
| 5.2.3 Other normal service conditions..... | 46 |
| 5.2.4 Unusual service conditions | 47 |
| 5.3 Characteristics of the load | 47 |
| 5.4 Service condition tolerances | 48 |
| 5.4.1 Steady state and short time conditions | 48 |
| 5.4.2 Repetitive and non-repetitive transients..... | 50 |
| 6 Power conversion equipment and assemblies..... | 51 |
| 6.1 Electrical connections | 51 |
| 6.2 Calculation factors | 51 |
| 6.2.1 Essential variables | 51 |
| 6.2.2 Losses and efficiency | 56 |
| 6.2.3 Power factor | 57 |
| 6.2.4 Voltage regulation | 57 |
| 6.3 Electromagnetic compatibility..... | 59 |
| 6.3.1 Harmonics | 59 |
| 6.3.2 Other EMC aspects | 60 |

| | | |
|---------|--|----|
| 6.4 | Rated values | 60 |
| 6.4.1 | General | 60 |
| 6.4.2 | Rated output voltage | 60 |
| 6.4.3 | Rated current values | 61 |
| 6.5 | Duty classes | 62 |
| 6.5.1 | Principles | 62 |
| 6.5.2 | Selection of duty class and rated current value | 63 |
| 6.5.3 | Particular remarks for double converters | 64 |
| 6.6 | Markings | 64 |
| 6.6.1 | General | 64 |
| 6.6.2 | Rating plate | 65 |
| 7 | Tests for valve device assemblies and power conversion equipment | 65 |
| 7.1 | General | 65 |
| 7.1.1 | Methods of testing | 65 |
| 7.1.2 | Kinds of tests | 66 |
| 7.1.3 | Performance of tests | 66 |
| 7.2 | Insulation tests | 67 |
| 7.2.1 | General | 67 |
| 7.2.2 | Routine insulation tests of power conversion equipment | 68 |
| 7.2.3 | Additional tests | 71 |
| 7.3 | Functional test | 71 |
| 7.3.1 | Light load test and functional test | 71 |
| 7.3.2 | Rated current test | 72 |
| 7.3.3 | Over-current capability test | 72 |
| 7.3.4 | Measurement of the inherent voltage regulation | 72 |
| 7.3.5 | Measurement of ripple voltage and current | 72 |
| 7.3.6 | Measurement of harmonic currents | 72 |
| 7.4 | Losses, temperature and power factor | 73 |
| 7.4.1 | Power loss determination for assemblies and equipment | 73 |
| 7.4.2 | Temperature rise test | 74 |
| 7.4.3 | Power factor measurements | 74 |
| 7.5 | Auxiliary device and control equipment | 74 |
| 7.5.1 | Checking of auxiliary devices | 74 |
| 7.5.2 | Checking the properties of the control equipment | 75 |
| 7.5.3 | Checking the protective devices | 75 |
| 7.6 | EMC tests | 75 |
| 7.7 | Measurement of audible noise and additional tests | 76 |
| 7.8 | Tolerances | 76 |
| Annex A | (normative) Harmonics and interharmonics | 78 |
| A.1 | Non-sinusoidal voltages and currents | 78 |
| A.2 | Two approaches for definitions related to harmonics | 78 |
| Annex B | (informative) Electrical environment – Short-circuit ratio | 79 |
| B.1 | Electrical environment specification | 79 |
| B.2 | Point of coupling of the converter | 80 |
| B.2.1 | Systems and installations | 80 |
| B.2.2 | Short-circuit ratio of the source in the installation | 81 |
| B.2.3 | Short-circuit ratio | 82 |
| Annex C | (informative) Introduction to safety standards for power conversion equipment | 84 |

| | | |
|------------|---|----|
| C.1 | General..... | 84 |
| C.2 | Brief introduction to IEC 62477 series with reference to IEC 60146 series | 84 |
| C.3 | Purposes or intentions of IEC 60146 series and IEC 62477 series | 84 |
| | Bibliography..... | 85 |
| | | |
| Figure 1 | – Types of commutation | 40 |
| Figure 2 | – Illustration of angles | 41 |
| Figure 3 | – Voltage regulation | 43 |
| Figure 4 | – AC voltage waveform | 51 |
| Figure B.1 | – PCC, IPC, installation current ratio and R_{SI} | 82 |
| Figure B.2 | – PCC, IPC, installation current ratio and R_{SC} | 83 |
| | | |
| Table 1 | – List of major subscripts | 36 |
| Table 2 | – Symbols | 36 |
| Table 3 | – Performance criteria | 43 |
| Table 4 | – Cooling medium or heat transfer agent..... | 45 |
| Table 5 | – Method of circulation | 45 |
| Table 6 | – Limit of temperature of the cooling medium for indoor equipment | 46 |
| Table 7 | – Immunity levels to frequency and voltage amplitude for stiff AC voltage connections | 49 |
| Table 8 | – Immunity levels to voltage unbalance for stiff AC voltage connections | 49 |
| Table 9 | – Immunity levels to voltage waveform for stiff AC voltage connections | 50 |
| Table 10 | – Connections and calculation factors | 54 |
| Table 11 | – Standard duty classes | 62 |
| Table 12 | – Examples of load cycles as guidance for selection of duty class | 63 |
| Table 13 | – Summary of tests | 67 |
| Table 14 | – AC or DC test voltages for equipment directly connected to low voltage mains..... | 70 |
| Table 15 | – AC or DC test voltages for equipment directly connected to high voltage mains..... | 70 |
| Table 16 | – Tolerances | 77 |
| Table C.1 | – Comparison on purposes or intentions between two standards | 84 |

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

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

This fifth edition cancels and replaces the fourth edition published in 2009. This fifth edition constitutes a technical revision.

This fifth edition introduces four main changes:

- a) re-edition of the whole standard according to the current directives;
- b) deletion of safety-related descriptions considering coordination with IEC 62477 series;
- c) changes of calculation methods of inductive voltage regulation;
- d) changes considering coordination with IEC 61378 series.

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

| | |
|-------------|------------------|
| Draft | Report on voting |
| 22/374/FDIS | 22/378/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/publications.

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INTRODUCTION

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

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.

IEC TR 60146-1-2, Application guidelines:

- 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.