Electromagnetic compatibility (EMC) –

Part 4-11:
Testing and measurement techniques –
Voltage dips, short interruptions and
voltage variations immunity tests

This English-language version is derived from the original bilingual publication by leaving out all French-language pages. Missing page numbers correspond to the French-language pages.
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CONTENTS

FOREWORD ....................................................................................................................... 5
INTRODUCTION ................................................................................................................... 9

1 Scope ........................................................................................................................ 11
2 Normative references ...................................................................................................... 11
3 Terms and definitions ..................................................................................................... 11
4 General .......................................................................................................................... 15
5 Test levels .................................................................................................................. 15
6 Test instrumentation ....................................................................................................... 23
7 Test set-up .................................................................................................................. 27
8 Test procedures .............................................................................................................. 29
9 Evaluation of test results ................................................................................................. 33
10 Test report ................................................................................................................... 35

Annex A (normative) Test circuit details ............................................................................. 37
Annex B (informative) Electromagnetic environment classes ................................................. 43
Annex C (informative) Test instrumentation ........................................................................... 45

Bibliography ....................................................................................................................... 51

Figure 1 – Voltage dip - Examples ......................................................................................... 21
Figure 2 – Short interruption ................................................................................................. 21
Figure 3 – Voltage variation ................................................................................................. 23
Figure 4 – Phase-to-neutral and phase-to-phase testing on three-phase systems ................. 33
Figure A.1 – Circuit for determining the inrush current drive capability of the short
interruptions generator ........................................................................................................ 39
Figure A.2 – Circuit for determining the peak inrush current requirement of an EUT .......... 41
Figure C.1 – Schematics of test instrumentation for voltage dips, short interruptions
and voltage variations ......................................................................................................... 47
Figure C.2 – Schematic of test instrumentation for three-phase voltage dips, short
interruptions and voltage variations using power amplifier ............................................. 49

Table 1 – Preferred test level and durations for voltage dips .................................................. 17
Table 2 – Preferred test level and durations for short interruptions ........................................ 17
Table 3 – Timing of short-term supply voltage variations ....................................................... 19
Table 4 – Generator specifications ......................................................................................... 25
INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests

FOREWORD

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International Standard IEC 61000-4-11 has been prepared by subcommittee 77A: Low frequency phenomena, of IEC technical committee 77: Electromagnetic compatibility.

This second edition cancels and replaces the first edition published in 1994 and its amendment 1 (2000). This second edition constitutes a technical revision in which

1) preferred test values and durations have been added for the different environment classes;

2) the tests for the three-phase systems have been specified.

It forms part 4-11 of IEC 61000. It has the status of a Basic EMC Publication in accordance with IEC Guide 107.
The text of this standard is based on the following documents:

<table>
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<tr>
<th>FDIS</th>
<th>Report on voting</th>
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<tbody>
<tr>
<td>77A/452/FDIS</td>
<td>77A/455/RVD</td>
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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 committee has decided that the contents of this publication will remain unchanged until 2008. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.
INTRODUCTION

IEC 61000 is published in separate parts according to the following structure:

**Part 1: General**
- General considerations (introduction, fundamental principles)
- Definitions, terminology

**Part 2: Environment**
- Description of the environment
- Classification of the environment
- Compatibility levels

**Part 3: Limits**
- Emission limits
- Immunity limits (in so far as they do not fall under the responsibility of the product committees)

**Part 4: Testing and measurement techniques**
- Measurement techniques
- Testing techniques

**Part 5: Installation and mitigation guidelines**
- Installation guidelines
- Mitigation methods and devices

**Part 6: Generic standards**

**Part 9: Miscellaneous**

Each part is further subdivided into several parts, published either as International Standards or as technical specifications or technical reports, some of which have already been published as sections. Others will be published with the part number followed by a dash and a second number identifying the subdivision (example: 61000-6-1).
1 Scope

This part of IEC 61000 defines the immunity test methods and range of preferred test levels for electrical and electronic equipment connected to low-voltage power supply networks for voltage dips, short interruptions, and voltage variations.

This standard applies to electrical and electronic equipment having a rated input current not exceeding 16 A per phase, for connection to 50 Hz or 60 Hz a.c. networks.

It does not apply to electrical and electronic equipment for connection to 400 Hz a.c. networks. Tests for these networks will be covered by future IEC standards.

The object of this standard is to establish a common reference for evaluating the immunity of electrical and electronic equipment when subjected to voltage dips, short interruptions and voltage variations.

NOTE Voltage fluctuation immunity tests are covered by IEC 61000-4-14.

The test method documented in this part of IEC 61000 describes a consistent method to assess the immunity of equipment or a system against a defined phenomenon. As described in IEC Guide 107, this is a basic EMC publication for use by product committees of the IEC. As also stated in Guide 107, the IEC product committees are responsible for determining whether this immunity test standard should be applied or not, and, if applied, they are responsible for defining the appropriate test levels. Technical committee 77 and its sub-committees are prepared to co-operate with product committees in the evaluation of the value of particular immunity tests for their products.

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 61000-2-8, Electromagnetic compatibility (EMC) – Part 2-8: Environment – Voltage dips and short interruptions on public electric power supply systems with statistical measurement results