

INTERNATIONAL STANDARD

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BASIC EMC PUBLICATION
PUBLICATION FONDAMENTALE EN CEM

**Electromagnetic compatibility (EMC) –
Part 4-11: Testing and measurement techniques – Voltage dips, short
interruptions and voltage variations immunity tests for equipment with input
current up to 16 A per phase**

**Compatibilité électromagnétique (CEM) –
Partie 4-11: Techniques d'essai et de mesure – Essais d'immunité aux creux
de tension, coupures brèves et variations de tension pour les appareils
à courant d'entrée inférieur ou égal à 16 A par phase**



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CONTENTS

FOREWORD	4
INTRODUCTION	6
1 Scope	7
2 Normative references	7
3 Terms and definitions	7
4 General	9
5 Test levels	9
5.1 General	9
5.2 Voltage dips and short interruptions	9
5.3 Voltage variations	11
6 Test instrumentation	14
6.1 Test generator	14
6.1.1 General	14
6.1.2 Characteristics and performance of the generator	15
6.1.3 Verification of the characteristics of the voltage dips and short interruptions generators	15
6.2 Power source	16
7 Test set-up	16
8 Test procedures	17
8.1 General	17
8.2 Laboratory reference conditions	17
8.2.1 Climatic conditions	17
8.2.2 Electromagnetic conditions	18
8.3 Execution of the test	18
8.3.1 General	18
8.3.2 Voltage dips and short interruptions	18
8.3.3 Voltage variations	19
9 Evaluation of test results	19
10 Test report	20
Annex A (normative) Test circuit details	21
A.1 Test generator peak inrush current drive capability	21
A.2 Current monitor's characteristics for measuring peak inrush current capability	21
A.3 EUT peak inrush current requirement	21
Annex B (informative) Electromagnetic environment classes	23
Annex C (informative) Test instrumentation	24
Annex D (informative) Rationale for generator specification regarding voltage, rise-time and fall-time, and inrush current capability	27
D.1 Concept of basic standard	27
D.2 IEC 61000-4-11:1994 (first edition)	27
D.3 Rationale for the need of rapid fall-times	27
D.4 Interpretation of the rise-time and fall-time requirements during EUT testing	28
D.5 Main conclusions	28
D.6 Rationale for inrush current capability	28
Bibliography	30

Figure 1 – Voltage dip – Examples.....	12
Figure 2 – Short interruption	13
Figure 3 – Detailed view of rise and fall time.....	13
Figure 4 – Voltage variation	14
Figure 5 – Phase-to-neutral and phase-to-phase testing on three-phase systems	19
Figure A.1 – Circuit for determining the inrush current drive capability of the short interruptions generator.....	22
Figure A.2 – Circuit for determining the peak inrush current requirement of an EUT.....	22
Figure C.1 – Schematics of test instrumentation for voltage dips, short interruptions and voltage variations	25
Figure C.2 – Schematic of test instrumentation for three-phase voltage dips, short interruptions and voltage variations using a power amplifier.....	26
Table 1 – Preferred test levels and durations for voltage dips	10
Table 2 – Preferred test levels and durations for short interruptions.....	11
Table 3 – Timing of short-term supply voltage variations.....	11
Table 4 – Generator specifications.....	15

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTROMAGNETIC COMPATIBILITY (EMC) –**Part 4-11: Testing and measurement techniques –
Voltage dips, short interruptions and voltage variations immunity
tests for equipment with input current up to 16 A per phase**

FOREWORD

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

It forms Part 4-11 of IEC 61000. It has the status of a basic EMC publication in accordance with IEC Guide 107.

This third edition cancels and replaces the second edition published in 2004 and Amendment 1:2017. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) rise time and fall time of transients are now defined terms in Clause 3;
- b) the origin of voltage dips and short interruptions is now stated in Clause 4.

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

FDIS	Report on voting
77A/1039/FDIS	77A/1056/RVD

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

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

A list of all parts in the IEC 61000 series, published under the general title *Electromagnetic compatibility (EMC)*, can be found on the IEC website.

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

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

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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: IEC 61000-6-1).

ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 4-11: Testing and measurement techniques – Voltage dips, short interruptions and voltage variations immunity tests for equipment with input current up to 16 A per phase

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 document 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 AC networks.

It does not apply to electrical and electronic equipment for connection to 100 Hz AC networks. Tests for these networks will be covered by future IEC documents.

The object of this document 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 1 Voltage fluctuation immunity tests are covered by IEC 61000-4-14.

The test method documented in this document describes a consistent method to assess the immunity of equipment or a system against a defined phenomenon.

NOTE 2 As described in IEC Guide 107, this is a public 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 documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 TR 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*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>