

# INTERNATIONAL STANDARD

# IEC 61000-4-11

Second edition  
2004-03

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BASIC EMC PUBLICATION

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## 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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## **Electromagnetic compatibility (EMC) –**

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

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International Electrotechnical Commission  
Международная Электротехническая Комиссия

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## 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:

FDIS	Report on voting
77A/452/FDIS	77A/455/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 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- withdrawn;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).

## **ELECTROMAGNETIC COMPATIBILITY (EMC) –**

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

#### **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*