

# SLOVENSKI STANDARD

## SIST EN 61000-4-4:2013

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Nadomešča:

SIST EN 61000-4-4:2005

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**Elektromagnetna združljivost (EMC) - 4-4. del: Preskusne in merilne tehnike - Preskus odpornosti proti hitrim električnim prehodnim pojavom/razpoku (IEC 61000-4-4:2012)**

Electromagnetic compatibility (EMC) - Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test

**iTeh STANDARD PREVIEW**

Elektromagnetische Verträglichkeit (EMV) - Teil 4-4: Prüf- und Messverfahren - Prüfung der Störfestigkeit gegen schnelle transiente elektrische Störgrößen/Burst

[SIST EN 61000-4-4:2013](#)

Compatibilité électromagnétique (CEM) - Partie 4-4: Techniques d'essai et de mesure - Essais d'immunité aux transitoires électriques rapides en salves

**Ta slovenski standard je istoveten z: EN 61000-4-4:2012**

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**ICS:**

33.100.20      Imunost      Immunity

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 61000-4-4**

November 2012

ICS 33.100.20

Supersedes EN 61000-4-4:2004 + A1:2010

English version

**Electromagnetic compatibility (EMC) -  
Part 4-4: Testing and measurement techniques -  
Electrical fast transient/burst immunity test  
(IEC 61000-4-4:2012)**

Compatibilité électromagnétique (CEM) -  
Partie 4-4: Techniques d'essai  
et de mesure -  
Essai d'immunité aux transitoires  
électriques rapides en salves  
(CEI 61000-4-4:2012)

Elektromagnetische Verträglichkeit (EMV) -  
Teil 4-4: Prüf- und Messverfahren -  
Prüfung der Störfestigkeit gegen schnelle  
transiente elektrische Störgrößen/Burst  
(IEC 61000-4-4:2012)

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European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 77B/670/FDIS, future edition 3 of IEC 61000-4-4, prepared by SC 77B "High frequency phenomena" of IEC/TC 77 "Electromagnetic compatibility" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61000-4-4:2012.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2013-05-09
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2015-06-04

This document supersedes EN 61000-4-4:2004 + A1:2010.

EN 61000-4-4:2012 includes the following significant technical changes with respect to EN 61000-4-4:2004 + A1:2010:

This edition improves and clarifies simulator specifications, test criteria and test setups.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

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The text of the International Standard IEC 61000-4-4:2012 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61000-4-2:2008	NOTE	Harmonised as EN 61000-4-2:2009 (not modified).
IEC 61000-4-4:2004	NOTE	Harmonised as EN 61000-4-4:2004 (not modified).
IEC 61000-4-4:2004/A1:2010	NOTE	Harmonised as EN 61000-4-4:2004/A1:2010 (not modified).
IEC 61000-4-5:2005	NOTE	Harmonised as EN 61000-4-5:2006 (not modified).

## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-161	1990	International Electrotechnical Vocabulary (IEV) - Chapter 161: Electromagnetic compatibility	-	-

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IEC 61000-4-4

Edition 3.0 2012-04

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE



BASIC EMC PUBLICATION  
PUBLICATION FONDAMENTALE EN CEM

**Electromagnetic compatibility (EMC) –**  
**Part 4-4: Testing and measurement techniques – Electrical fast transient/burst**  
**immunity test**

**Compatibilité électromagnétique (CEM) –**  
**Partie 4-4: Techniques d'essai et de mesure – Essai d'immunité aux transitoires**  
**électriques rapides en salves**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**ELECTROMAGNETIC COMPATIBILITY (EMC) –****Part 4-4: Testing and measurement techniques –  
Electrical fast transient/burst immunity test**

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61000-4-4 has been prepared by subcommittee 77B: High frequency phenomena, of IEC technical committee 77: Electromagnetic compatibility.

It forms Part 4-4 of IEC 61000. It has the status of a basic EMC publication in accordance with IEC Guide 107, *Electromagnetic compatibility – Guide to the drafting of electromagnetic compatibility publications*.

This third edition cancels and replaces the second edition published in 2004 and its amendment 1 (2010) and constitutes a technical revision.

This third edition improves and clarifies simulator specifications, test criteria and test setups.

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

FDIS	Report on voting
77B/670/FDIS	77B/673/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 list of all currently available parts of the IEC 61000 series, under the general title *Electromagnetic compatibility (EMC)*, can be found on the IEC web site.

The committee has decided that the contents of this publication will remain unchanged until the stability 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

- 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**

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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 are published with the part number followed by a dash and a second number identifying the subdivision (example: IEC 61000-6-1).

This part is an international standard which gives immunity requirements and test procedures related to electrical fast transients/bursts.

## ELECTROMAGNETIC COMPATIBILITY (EMC) –

### Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test

#### 1 Scope

This part of IEC 61000 relates to the immunity of electrical and electronic equipment to repetitive electrical fast transients. It gives immunity requirements and test procedures related to electrical fast transients/bursts. It additionally defines ranges of test levels and establishes test procedures.

The object of this standard is to establish a common and reproducible reference in order to evaluate the immunity of electrical and electronic equipment when subjected to electrical fast transient/bursts on supply, signal, control and earth ports. The test method documented in this part of IEC 61000 describes a consistent method to assess the immunity of an equipment or system against a defined phenomenon.

NOTE 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 is applied or not, and if applied, they are responsible for determining the appropriate test levels and performance criteria.<sup>1</sup>

The standard defines:

- test voltage waveform; [SIST EN 61000-4-4:2013](https://standards.iteh.ai/catalog/standards/sist/2d5e60f0-7d27-4b80-9d16-24faab3976d/sist-en-61000-4-4-2013)
- range of test levels; <https://standards.iteh.ai/catalog/standards/sist/2d5e60f0-7d27-4b80-9d16-24faab3976d/sist-en-61000-4-4-2013>
- test equipment;
- calibration and verification procedures of test equipment;
- test setups;
- test procedure.

The standard gives specifications for laboratory and in situ tests.

#### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-161:1990, *International Electrotechnical Vocabulary – Chapter 161: Electromagnetic compatibility*

#### 3 Terms, definitions and abbreviations

##### 3.1 Terms and definitions

For the purposes of this document, the terms and definitions of IEC 60050-161, as well as the following apply.

<sup>1</sup> TC 77 and its subcommittees are prepared to co-operate with product committees in the evaluation of the value of particular immunity tests for their products.