BRITISH STANDARD

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

Incorporating corrigenda August 2006 and June 2007

Electromagnetic compatibility (EMC) —

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

ICS 33.100.20

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BSI British Standards

National foreword

This British Standard is the UK implementation of EN 61000-4-4:2004+A1:2010. It is identical to IEC 61000-4-4:2004, incorporating amendment 1:2010, and corrigenda August 2006 and June 2007. It supersedes BS EN 61000-4-4:2004 which will be withdrawn on March 2013.

The UK participation in its preparation was entrusted by Technical Committee GEL/210, EMC — Policy committee, to Subcommittee GEL/210/12, EMC basic, generic and low frequency phenomena standardization.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 2 February 2005

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	31 May 2010	Implementation of IEC amendment 1:2010 with CENELEC endorsement A1:2010; Subclause **6.2.2** replaced

EUROPEAN STANDARD **EN 61000-4-4:2004+A1**

NORME EUROPÉENNE

EUROPÄISCHE NORM March 2010

ICS 33.100.20 Supersedes EN 61000-4-4:1995 + A1:2001 + A2:2001

English version

Electromagnetic compatibility (EMC)
Part 4-4: Testing and measurement techniques - Electrical fast transient/burst immunity test
(IEC 61000-4-4:2004)

Compatibilité électromagnétique (CEM)
Partie 4-4: Techniques d'essai
et de mesure -
Essais d'immunité aux transitoires
électriques rapides en salves
(CEI 61000-4-4:2004)

Elektromagnetische Verträglichkeit (EMV)
Teil 4-4: Prüf- und Messverfahren -
Prüfung der Störfestigkeit gegen schnelle
transiente elektrische Störgrößen/Burst
(IEC 61000-4-4:2004)

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CENELEC

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

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Ref. No. EN 61000-4-4:2004 E

Foreword

The text of document 77B/419/FDIS, future edition 2 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 was approved by CENELEC as EN 61000-4-4 on 2004-10-01.

This European Standard supersedes EN 61000-4-4:1995 + A1:2001 + A2:2001.

This new edition improves and clarifies simulator specifications, test criteria and test set-ups. Only common mode injection is required.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2005-07-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2007-10-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 61000-4-4:2004 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 61000-4-4	NOTE	Harmonized as EN 61000-4-4:1995 (not modified).

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Foreword to amendment A1

The text of document 77B/621/FDIS, future amendment 1 to IEC 61000-4-4:2004, prepared by SC 77B, High frequency phenomena, of IEC TC 77, Electromagnetic compatibility, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 61000-4-4:2004 on 2010-03-01.

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The following dates were fixed:

– latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2010-12-01
– latest date by which the national standards conflicting with the amendment have to be withdrawn	(dow)	2013-03-01

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Endorsement notice

The text of amendment 1:2010 to the International Standard IEC 61000-4-4:2004 was approved by CENELEC as an amendment to the European Standard without any modification.

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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: 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 61000-4 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 for evaluating 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 61000-4 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 should be applied or not, and if applied, they are responsible for determining the appropriate test levels and performance criteria. TC 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.

The standard defines:

– test voltage waveform;
– range of test levels;
– test equipment;
– verification procedures of test equipment;
– test set-up;
– test procedure.

The standard gives specifications for laboratory and post-installation tests.

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 60050-161:1990, *International Electrotechnical Vocabulary (IEV) – Chapter 161: Electromagnetic compatibility*