BRITISH STANDARD

BS EN
61000-6-1:2007

Electromagnetic compatibility (EMC) —

Part 6-1: Generic standards — Immunity for residential, commercial and light-industrial environments

The European Standard EN 61000-6-1:2007 has the status of a British Standard

ICS 33.100.20

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BSI
British Standards

National foreword

This British Standard was published by BSI. It is the UK implementation of EN 61000-6-1:2007. It is identical with IEC 61000-6-1:2005. It supersedes BS EN 61000-6-1:2001, which will be withdrawn on 1 December 2009.

The UK participation in its preparation was entrusted by Technical Committee GEL/210, EMC — Policy committee, to Subcommittee GEL/210/12, EMC — Basic and generic standards.

A list of organizations represented on GEL/210/12 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.

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 28 February 2007

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ISBN 978 0 580 50240 8

Amendments issued since publication

Amd. No.	Date	Comments

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61000-6-1

January 2007

ICS 33.100.20

Supersedes EN 61000-6-1:2001 + IS1:2005

English version

Electromagnetic compatibility (EMC) - Part 6-1: Generic standards - Immunity for residential, commercial and light-industrial environments

(IEC 61000-6-1:2005)

Compatibilité électromagnétique (CEM) - Partie 6-1: Normes génériques - Immunité pour les environnements résidentiels, commerciaux et de l'industrie légère (CEI 61000-6-1:2005)

Elektromagnetische Verträglichkeit (EMV) - Teil 6-1: Fachgrundnormen - Störfestigkeit für Wohnbereich, Geschäfts- und Gewerbebereiche sowie Kleinbetriebe (IEC 61000-6-1:2005)

This European Standard was approved by CENELEC on 2006-12-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

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Ref. No. EN 61000-6-1:2007 E

Foreword

The text of the International Standard IEC 61000-6-1:2005, prepared by IEC TC 77, Electromagnetic compatibility, was submitted to the formal vote and was approved by CENELEC as EN 61000-6-1 on 2006-12-01 without any modification.

This European Standard supersedes EN 61000-6-1:2001 + IS1:2005.

Specific technical changes have been introduced to Tables 1 to 4. The frequency range for tests according to EN 61000-4-3 has been extended above 1 GHz according to technologies used in this frequency area. The use of TEM waveguide testing according to EN 61000-4-20 has been introduced for certain products and the testing requirements according to EN 61000-4-11 have been amended significantly.

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)	2007-12-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2009-12-01

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and covers essential requirements of EC Directives EMC (89/336/EEC), EMC (2004/108/EC) and RTTED (1999/5/EC). See Annex ZZ.

Annexes ZA and ZZ have been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 61000-6-1:2005 was approved by CENELEC as a 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 (insofar 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 6-1: Generic standards – Immunity for residential, commercial and light-industrial environments

1 Scope and object

This part of IEC 61000 for EMC immunity requirements applies to electrical and electronic apparatus intended for use in residential, commercial and light-industrial environments. Immunity requirements in the frequency range 0 Hz to 400 GHz are covered. No tests need to be performed at frequencies where no requirements are specified.

This generic EMC immunity standard is applicable if no relevant dedicated product or product-family EMC immunity standard exists.

This standard applies to apparatus intended to be directly connected to a low-voltage public mains network or connected to a dedicated DC source which is intended to interface between the apparatus and the low-voltage public mains network. This standard applies also to apparatus which is battery operated or is powered by a non-public, but non-industrial, low-voltage power distribution system if this apparatus is intended to be used in the locations described below.

The environments encompassed by this standard are residential, commercial and light-industrial locations, both indoor and outdoor. The following list, although not comprehensive, gives an indication of locations which are included:

– residential properties, for example houses, apartments;
– retail outlets, for example shops, supermarkets;
– business premises, for example offices, banks;
– areas of public entertainment, for example cinemas, public bars, dance halls;
– outdoor locations, for example petrol stations, car parks, amusement and sports centres;
– light-industrial locations, for example workshops, laboratories, service centres.

Locations which are characterised by being supplied directly at low voltage from the public mains network are considered to be residential, commercial or light-industrial.

The object of this standard is to define the immunity test requirements for apparatus specified in the scope in relation to continuous and transient, conducted and radiated disturbances including electrostatic discharges.

The immunity requirements have been selected to ensure an adequate level of immunity for apparatus at residential, commercial and light-industrial locations. The levels do not, however, cover extreme cases, which may occur at any location, but with an extremely low probability of occurrence. Not all disturbance phenomena have been included for testing purposes in this standard but only those considered as relevant for the equipment covered by this standard. These test requirements represent essential electromagnetic compatibility immunity requirements.

NOTE 1 Information on other disturbance phenomena is given in IEC 61000-4-1.