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Elektromagnetisk kompatibilitet (EMC) – Del 3-2: Gränsvärden – Gränser för övertoner förorsakade av apparater med matningsström högst 16 A per fas

Electromagnetic compatibility (EMC) –

Part 3-2: Limits –

Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)

Som svensk standard gäller europastandarden EN 61000-3-2:2014. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61000-3-2:2014.

Nationellt förord

Europastandarden EN 61000-3-2:2014

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 61000-3-2, Fourth edition, 2014 - Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 61000-3-2, utgåva 4, 2006, SS-EN 61000-3-2/A1, utgåva 1, 2009 och SS-EN 61000-3-2/A2, utgåva 1, 2009, gäller ej fr o m 2017-06-30.

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English Version

**Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for
harmonic current emissions (equipment input current ≤ 16 A per
phase)
(IEC 61000-3-2:2014)**

Compatibilité électromagnétique (CEM) - Partie 3-2: Limites
- Limites pour les émissions de courant harmonique
(courant appelé par les appareils ≤ 16 A par phase)
(CEI 61000-3-2:2014)

Elektromagnetische Verträglichkeit (EMV) - Teil 3-2:
Grenzwerte - Grenzwerte für Oberschwingungsströme
(Geräte-Eingangsstrom ≤ 16 A je Leiter)
(IEC 61000-3-2:2014)

This European Standard was approved by CENELEC on 2014-06-30. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Foreword

The text of document 77A/846/FDIS, future edition 4 of IEC 61000-3-2, prepared by SC 77A, "Low-frequency phenomena", of IEC TC 77, "Electromagnetic compatibility" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 61000-3-2:2014.

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) 2015-03-30
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2017-06-30

This document supersedes EN 61000-3-2:2006.

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.

This document has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

Endorsement notice

The text of the International Standard IEC 61000-3-2:2014 was approved by CENELEC as a European Standard without any modification.

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 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here:
www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-131	-	International Electrotechnical Vocabulary (IEV) -- Part 131: Circuit theory	-	-
IEC 60050-161	-	International Electrotechnical Vocabulary (IEV) -- Chapter 161: Electromagnetic compatibility	-	-
IEC 60107-1	-	Methods of measurement on receivers for television broadcast transmissions -- Part 1: General considerations - Measurements at radio and video frequencies	EN 60107-1	-
IEC 60155	-	Glow-starters for fluorescent lamps	EN 60155	-
IEC 60268-1	1985	Sound system equipment -- Part 1: General	HD 483.1 S2	1989
IEC 60268-3	-	Sound system equipment -- Part 3: Amplifiers (GMT)	EN 60268-3	-
IEC 60335-2-2	-	Household and similar electrical appliances Safety -- Part 2-2: Particular requirements for vacuum cleaners and water-suction cleaning appliances	-EN 60335-2-2	-
IEC 60335-2-14	-	Household and similar electrical appliances Safety -- Part 2-14: Particular requirements for kitchen machines	-EN 60335-2-14	-
IEC 60335-2-24	2010	Household and similar electrical appliances Safety -- Part 2-24: Particular requirements for refrigerating appliances, ice-cream appliances and ice makers	-EN 60335-2-24	2010
IEC 60335-2-79	-	Household and similar electrical appliances Safety -- Part 2-79: Particular requirements for high pressure cleaners and steam cleaners	-EN 60335-2-79	-
IEC 60974-1	-	Arc welding equipment -- Part 1: Welding power sources	EN 60974-1	-
IEC 61000-2-2	-	Electromagnetic compatibility (EMC) -- Part 2-2: Environment - Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems	EN 61000-2-2	-
IEC 61000-3-12	-	Electromagnetic compatibility (EMC) -- Part 3-12: Limits - Limits for harmonic currents produced by equipment connected to public low-voltage systems with input current > 16 A and ≤ 75 A per phase	EN 61000-3-12	-

IEC 61000-4-7	-	Electromagnetic compatibility (EMC) -- Part 4-7: Testing and measurement techniques - General guide on harmonics and interharmonics measurements and instrumentation, for power supply systems and equipment connected thereto	EN 61000-4-7	-
IEC/TS 61000-3-4	-	Electromagnetic compatibility (EMC) -- Part 3-4: Limits - Limitation of emission of harmonic currents in low-voltage power supply systems for equipment with rated current greater than 16 A		-
ITU-R BT.471-1	-	Nomenclature and description of colour bar signals		-

Annex ZZ
(informative)

Coverage of Essential Requirements of EU Directives

This European Standard has been prepared under a mandate given to CENELEC by the European Commission and the European Free Trade Association and within its scope the standard covers protection requirements of Annex I Article 1(a) of the EU Directive 2004/108/EC and protection requirements of Article 3.1(b) (emissions only) of the EU Directive 1999/5/EC.

Compliance with this standard provides one means of conformity with the specified essential requirements of the Directives concerned.

WARNING: Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTROMAGNETIC COMPATIBILITY (EMC) –**Part 3-2: Limits – Limits for harmonic current emissions
(equipment input current ≤ 16 A per phase)**

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 61000-3-2 has been prepared by sub-committee 77A: Low-frequency phenomena, of IEC technical committee 77: Electromagnetic compatibility.

This fourth edition cancels and replaces the third edition published in 2005, Amendment 1: 2008, Amendment 2:2009 and Corrigendum of August 2009.

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

- a) a clarification of the repeatability and reproducibility of measurements;
- b) a more accurate specification of the general test conditions for information technology equipment;
- c) the addition of optional test conditions for information technology equipment with external power supplies or battery chargers;

- d) the addition of a simplified test method for equipment that undergoes minor changes or updates;
- e) an update of the test conditions for washing machines;
- f) a clarification of the requirements for Class C equipment with active input power ≤ 25 W;
- g) an update of the test conditions for audio amplifiers;
- h) a clarification of the test conditions for lamps;
- i) an update of the test conditions for vacuum cleaners;
- j) the addition of test conditions for high pressure cleaners;
- k) an update of the test conditions for arc welding equipment;
- l) the reclassification of refrigerators and freezers with variable-speed drives into Class D;
- m) the addition of test conditions for refrigerators and freezers.

The text of this standard is based on the third edition, Amendment 1, Amendment 2, the Corrigendum of August 2009 and the following documents:

FDIS	Report on voting
77A/846/FDIS	77A/853/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.

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 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.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

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 levels

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 sections which are to be published either as international standards, technical specifications, or as technical reports.

These standards and reports will be published in chronological order and numbered accordingly (for example, 61000-6-1).

This part is an international standard which gives emission limits for harmonic currents from equipment having an input current up to and including 16 A per phase.

This part is a Product Family Standard.

ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 3-2: Limits – Limits for harmonic current emissions (equipment input current ≤ 16 A per phase)

1 Scope

This part of IEC 61000 deals with the limitation of harmonic currents injected into the public supply system.

It specifies limits of harmonic components of the input current which may be produced by equipment tested under specified conditions.

Harmonic components are measured according to Annexes A and B.

This part of IEC 61000 is applicable to electrical and electronic equipment having an input current up to and including 16 A per phase, and intended to be connected to public low-voltage distribution systems.

Arc welding equipment which is not professional equipment, with input current up to and including 16 A per phase, is included in this standard.

Arc welding equipment intended for professional use, as specified in IEC 60974-1, is excluded from this standard and may be subject to installation restrictions as indicated in IEC/TR 61000-3-4 or IEC 61000-3-12.

The tests according to this standard are type tests. Test conditions for particular equipment are given in Annex C.

For systems with nominal voltages less than 220 V (line-to-neutral), the limits have not yet been considered.

NOTE The words apparatus, appliance, device and equipment are used throughout this standard. They have the same meaning for the purpose of this standard.

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 60050-131, *International Electrotechnical Vocabulary (IEV) – Part 131: Electric and magnetic circuits*

IEC 60050-161, *International Electrotechnical Vocabulary (IEV) – Part 161: Electro-magnetic compatibility*

IEC 60107-1, *Methods of measurement on receivers for television broadcast transmissions – Part 1: General considerations – Measurements at radio and video frequencies*

IEC 60155, *Glow-starters for fluorescent lamps*

IEC 60268-1:1985, *Sound system equipment – Part 1: General*

IEC 60268-3, *Sound system equipment – Part 3: Amplifiers*

IEC 60335-2-2, *Household and similar electrical appliances – Safety – Part 2-2: Particular requirements for vacuum cleaners and water-suction cleaning appliances*

IEC 60335-2-14, *Household and similar electrical appliances – Safety – Part 2-14: Particular requirements for kitchen machines*

IEC 60335-2-24:2010, *Household and similar electrical appliances – Safety – Part 2-24: Particular requirements for refrigerating appliances, ice-cream appliances and ice makers*

IEC 60335-2-79, *Household and similar electrical appliances – Safety – Part 2-79: Particular requirements for high pressure cleaners and steam cleaners*

IEC 60974-1, *Arc welding equipment – Part 1: Welding power sources*

IEC 61000-2-2, *Electromagnetic compatibility (EMC) – Part 2-2: Environment – Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems*

IEC/TR 61000-3-4, *Electromagnetic compatibility (EMC) – Part 3-4: Limits – Limitation of emission of harmonic currents in low-voltage power supply systems for equipment with rated current greater than 16 A*

IEC 61000-3-12, *Electromagnetic compatibility (EMC) – Part 3-12: Limits – Limits for harmonic currents produced by equipment connected to public low-voltage systems with input current $> 16\text{ A}$ and $\leq 75\text{ A}$ per phase*

IEC 61000-4-7, *Electromagnetic compatibility (EMC) – Part 4-7: Testing and measurement techniques – General guide on harmonics and interharmonics measurements and instrumentation, for power supply systems and equipment connected thereto*

Recommendation ITU-R BT.471-1, *Nomenclature and description of colour bar signals*