

SLOVENSKI STANDARD

SIST EN 61000-3- 2:2002/A2:2005

julij 2005

Elektromagnetna združljivost (EMC) – 3-2. del: Mejne vrednosti – Mejne vrednosti za oddajanje harmonskih tokov (vhodni tok opreme do vključno 16 A na fazo) – Dopolnilo A2 (IEC 61000-3-2:2000/A1:2001 + A2:2004)

Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions (equipment input current \leq 16 A per phase) (IEC 61000-3-2:2000/A1:2001 + A2:2004)

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ICS 33.100.10

Referenčna številka
SIST EN 61000-3-2:2002/A2:2005(en)

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EUROPEAN STANDARD

EN 61000-3-2/A2

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2005

ICS 33.100.10

English version

Electromagnetic compatibility (EMC)
Part 3-2: Limits –
Limits for harmonic current emissions
(equipment input current ≤ 16 A per phase)
(IEC 61000-3-2:2000/A1:2001 + A2:2004)

Compatibilité électromagnétique (CEM)
Partie 3-2: Limites –
Limites pour les émissions de courant
harmonique (courant appelé par les
appareils ≤ 16 A par phase)
(CEI 61000-3-2:2000/A1:2001 + A2:2004)

Elektromagnetische Verträglichkeit (EMV)
Teil 3-2: Grenzwerte –
Grenzwerte für Oberschwingungsströme
(Geräte-Eingangsstrom bis einschließlich
16 A je Leiter)
(IEC 61000-3-2:2000/A1:2001 + A2:2004)

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This amendment A2 modifies the European Standard EN 61000-3-2:2000; it was approved by CENELEC on 2004-12-07. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and 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

Foreword

The texts of documents 77A/337/FDIS and 77A/465/FDIS, future amendments 1 and 2 to IEC 61000-3-2:2000, prepared by SC 77A, Low frequency phenomena, of IEC TC 77, Electromagnetic compatibility, were submitted to the IEC-CENELEC parallel vote and were approved by CENELEC as amendment A2 to EN 61000-3-2:2000 on 2004-12-07.

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) 2005-09-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2008-01-01

As a consequence of endorsing amendment 1:2001 to IEC 61000-3-2:2000, the common modifications in EN 61000-3-2:2000 are covered by IEC text and therefore withdrawn.

Endorsement notice

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The texts of amendments 1:2001 and 2:2004 to the International Standard IEC 61000-3-2:2000 were approved by CENELEC as an amendment to the European Standard without any modification.

[SIST EN 61000-3-2:2002/A2:2005](https://standards.iteh.ai/catalog/standards/sist/d0f6d53a-98f3-493d-a80f-1c87b39caf6b/sist-en-61000-3-2-2002-a2-2005)

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE Where 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 60050-131	– ¹⁾	International Electrotechnical Vocabulary Part 131: Circuit theory	-	-
IEC 60050-161	– ¹⁾	Chapter 161: Electromagnetic compatibility	-	-
IEC 60065 (mod)	– ¹⁾	Audio, video and similar electronic apparatus - Safety requirements	EN 60065	2002 ²⁾
IEC 60107-1	– ¹⁾	Methods of measurement on receivers for television broadcast transmissions Part 1: General considerations - Measurements at radio and video frequencies	EN 60107-1	1997 ²⁾
IEC 60155	– ¹⁾	Glow-starters for fluorescent lamps	EN 60155	1995 ²⁾
IEC 60268-3	– ¹⁾	Sound system equipment Part 3: Amplifiers	EN 60268-3	2000 ²⁾
IEC 60335-2-2 (mod)	– ¹⁾	Household and similar electrical appliances - Safety Part 2-2: Particular requirements for vacuum cleaners and water-suction cleaning appliances	EN 60335-2-2	2003 ²⁾
IEC 60335-2-7 (mod)	– ¹⁾	Part 2-7: Particular requirements for washing machines	EN 60335-2-7	2003 ²⁾
IEC 60335-2-14 (mod)	– ¹⁾	Part 2-14: Particular requirements for kitchen machines	EN 60335-2-14	2003 ²⁾
IEC 60974-1	– ¹⁾	Arc welding equipment Part 1: Welding power sources	EN 60974-1	1998 ²⁾

1) undated reference.

2) valid edition at date of issue.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61000-2-2	– ¹⁾	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	2002 ²⁾
IEC/TS 61000-3-4	– ¹⁾	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 61000-4-7	– ¹⁾	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	2002 ²⁾
ITU-R Recommendation BT.471-1	– ¹⁾	Nomenclature and description of colour bar signals	-	-

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NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC

61000-3-2

2000

AMENDEMENT 1
AMENDMENT 1
2001-08

Amendement 1

Compatibilité électromagnétique (CEM) –

Partie 3-2:

**Limites – Limites pour les émissions
de courant harmonique (courant appelé
par les appareils ≤ 16 A par phase)**

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Amendment 1

<https://standards.iteh.ai/catalog/standards/sist/d0f6d53a-98f3-493d-a80f-3817161000-3-2-2002/A2-2005>

Electromagnetic compatibility (EMC) –

Part 3-2:

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

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE

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*Pour prix, voir catalogue en vigueur
For price, see current catalogue*

FOREWORD

This amendment has been prepared by subcommittee 77A: Low frequency phenomena, of IEC technical committee 77: Electromagnetic compatibility.

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

FDIS	Report on voting
77A/337/FDIS	77A/357/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of the base publication and its amendments will remain unchanged until 2004. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

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Under annex B, delete headings B.1 to B.5.

Under annex C, modify the heading of clause C.1 as follows:

C.1 General

The amendment of the title of C.8 applies to the French version only.

After C.15, add “Bibliography” to the list.

In the list of figures, delete the titles of the existing figures 1 and 2, and replace them by the title of the new figure 1:

Figure 1 – Flowchart for determining conformity

Add to the list of tables, after table 3, the following new title:

Table 4 – Test observation period

Page 13

1 Scope

Delete the last paragraph beginning with "Special equipment..." and ending with "...IEC 61000-3-4."

2 Normative references

Replace the entire existing text of clause 2 by the following:

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(131), *International Electrotechnical Vocabulary (IEV) – Chapter 131: Electric and magnetic circuits*

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

IEC 60065, *Audio, video and similar electronic apparatus – Safety requirements*

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 – 2:2002/A2:2005*

[https://standards.iteh.ai/catalog/standards/sist/d0f6d53a-98f3-493d-a80f-](https://standards.iteh.ai/catalog/standards/sist/d0f6d53a-98f3-493d-a80f-1e87129ce831/sist/61000-3-2:2002-a2-2005)

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

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

IEC 60335-2-7, *Safety of household and similar electrical appliances – Part 2-7: Particular requirements for washing machines*

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

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

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

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*

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

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3 Definitions

Add, after definition 3.13, the following note:

NOTE The active input power is the active power measured at the input supply terminals of the equipment under test.

Add, after definition 3.15, the following new definitions:

3.16

total harmonic current

total r.m.s. value of the harmonic current components of orders 2 to 40

$$\text{total harmonic current} = \sqrt{\sum_{n=2}^{40} I_n^2}$$

3.17

built-in dimmer

dimmer, including the user control, which is entirely contained within the enclosure of a luminaire

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3.18

partial odd harmonic current (standards.iteh.ai)

total r.m.s. value of the odd harmonic current components of orders 21 to 39

$$\text{partial odd harmonic current} = \sqrt{\sum_{n=21,23}^{39} I_n^2}$$

SIST EN 61000-3-2:2002/A2:2005
<https://standards.iteh.ai/catalog/standards/sist/d0f6d53a-98f3-493d-a80f-1c81b35f128b/sist-en-61000-3-2-2002-a2-2005>

3.19

lighting equipment

equipment with a primary function of generating and/or regulating and/or distributing optical radiation by means of incandescent lamps, discharge lamps or LED's

Included are:

- lamps and luminaires;
- the lighting part of multi-function equipment where one of the primary functions of this is illumination;
- independent ballasts for discharge lamps and independent incandescent lamp transformers;
- ultraviolet (UV) and infrared (IR) radiation equipment;
- illuminated advertising signs;
- dimmers for lamps other than incandescent.

Excluded are:

- lighting devices built in equipment with another primary purpose such as photocopiers, overhead projectors and slide projectors or employed for scale illuminating or indication purposes;
- dimmers for incandescent lamps.

3.20

stand-by mode

sleep-mode

non-operational, low power consumption mode (usually indicated in some way on the equipment) that can persist for an indefinite time

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4 General

Add at the end of clause 4, the following new paragraph:

Professional equipment that does not comply with the requirements of this standard may be permitted to be connected to certain types of low voltage supplies, if the instruction manual contains a requirement to ask the supply utility for permission to connect. Recommendations concerning this aspect are contained in IEC/TS 61000-3-4 ¹.

5 Classification of equipment

Replace the entire clause 5, including figures 1 and 2, by the following new text:

For the purpose of harmonic current limitation, equipment is classified as follows:

Class A:

- balanced three-phase equipment;
- household appliances, excluding equipment identified as class D;
- tools, excluding portable tools;
- dimmers for incandescent lamps;
- audio equipment.

Equipment not specified in one of the three other classes shall be considered as class A equipment.

NOTE 1 Equipment that can be shown to have a significant effect on the supply system may be reclassified in a future edition of the standard. Factors to be taken into account include:

- number of pieces of equipment in use;
- duration of use;
- simultaneity of use;
- power consumption;
- harmonic spectrum, including phase.

Class B:

- portable tools;
- arc welding equipment which is not professional equipment.

Class C:

- lighting equipment.

¹ When IEC 61000-3-12, currently in preparation, is published, it will replace IEC/TS 61000-3-4.