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## Elektromagnetisk kompatibilitet (EMC) – Del 3-2: Grænseværdier for emission af harmonisk strøm (indgangsstrøm til udstyret $\leq 16$ A pr. fase)

Electromagnetic compatibility (EMC) – Part 3-2: Limits –  
Limits for harmonic current emissions (equipment  
input current  $\leq 16$  A per phase)

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March 2019

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Supersedes EN 61000-3-2:2014

English Version

Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for  
harmonic current emissions (equipment input current  $\leq 16$  A per  
phase)  
(IEC 61000-3-2:2018)

Compatibilité électromagnétique (CEM) - Partie 3-2: Limites  
- Limites pour les émissions de courant harmonique  
(courant appelé par les appareils  $\leq 16$  A par phase)  
(IEC 61000-3-2:2018)

Elektromagnetische Verträglichkeit (EMV) - Teil 3-2:  
Grenzwerte - Grenzwerte für Oberschwingungsströme  
(Geräte-Eingangsstrom  $\leq 16$  A je Leiter)  
(IEC 61000-3-2:2018)

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## European foreword

The text of document 77A/986/FDIS, future edition 5 of IEC 61000-3-2, prepared by SC 77A "EMC - Low frequency phenomena" of IEC/TC 77 "Electromagnetic compatibility" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 61000-3-2:2019.

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) 2019-09-01
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-03-01

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

IEC 60107-1:1997	NOTE	Harmonized as EN 60107-1:1997 (not modified).
IEC 60268-1:1985/A1:1988	NOTE	Harmonized as HD 483.1 S2:1989 (not modified).
IEC 60335-2-2	NOTE	Harmonized as EN 60335-2-2.
IEC 60335-2-14	NOTE	Harmonized as EN 60335-2-14.
IEC 60335-2-79	NOTE	Harmonized as EN 60335-2-79.
IEC 60335-2-17	NOTE	Harmonized as EN 60335-2-17.
IEC 60974-1	NOTE	Harmonized as EN 60974-1.
IEC 60974-6	NOTE	Harmonized as EN 60974-6.
IEC 61000-2-2	NOTE	Harmonized as EN 61000-2-2.
IEC 61000-3-12	NOTE	Harmonized as EN 61000-3-12.
IEC 62756-1	NOTE	Harmonized as EN 62756-1.

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(normative)

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

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1 Where 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](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-161	-	International Electrotechnical Vocabulary. Chapter 161: Electromagnetic compatibility	-	-
IEC 60155	-	Glow-starters for fluorescent lamps	EN 60155	-
IEC 60268-3	-	Sound system equipment -- Part 3: Amplifiers	EN 60268-3	-
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 61000-4-7	2002	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
+ A1	2008		+ A1	2009

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# INTERNATIONAL STANDARD

# NORME INTERNATIONALE



**Electromagnetic compatibility (EMC) –  
Part 3-2: Limits – Limits for harmonic current emissions (equipment input  
current  $\leq 16$  A per phase)**

**Compatibilité électromagnétique (CEM) –  
Partie 3-2: Limites – Limites pour les émissions de courant harmonique  
(courant appelé par les appareils  $\leq 16$  A par phase)**

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Part 3-2: Limits – Limits for harmonic current emissions (equipment input  
current  $\leq 16$  A per phase)**

**Compatibilité électromagnétique (CEM) –  
Partie 3-2: Limites – Limites pour les émissions de courant harmonique (courant  
appelé par les appareils  $\leq 16$  A par phase)**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### ELECTROMAGNETIC COMPATIBILITY (EMC) –

#### Part 3-2: Limits – Limits for harmonic current emissions (equipment input current $\leq 16$ A per phase)

#### FOREWORD

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

It forms part 3-2 of the IEC 61000 series. It has the status of a product family standard.

This fifth edition cancels and replaces the fourth edition published in 2014. This edition constitutes a technical revision.

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

- a) an update of the emission limits for lighting equipment with a rated power  $\leq 25$  W to take into account new types of lighting equipment;
- b) the addition of a threshold of 5 W under which no emission limits apply to all lighting equipment;

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- c) the modification of the requirements applying to the dimmers when operating non-incandescent lamps;
- d) the addition of test conditions for digital load side transmission control devices;
- e) the removal of the use of reference lamps and reference ballasts for the tests of lighting equipment;
- f) the simplification and clarification of the terminology used for lighting equipment;
- g) the classification of professional luminaires for stage lighting and studios under Class A;
- h) a clarification about the classification of emergency lighting equipment;
- i) a clarification for lighting equipment including one control module with an active input power  $\leq 2$  W;
- j) an update of the test conditions for television receivers;
- k) an update of the test conditions for induction hobs, taking also into account the other types of cooking appliances;
- l) for consistency with IEC 61000-3-12, a change of the scope of IEC 61000-3-2 from equipment with an input current  $\leq 16$  A to equipment with a rated input current  $\leq 16$  A.

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

FDIS	Report on voting
77A/986/FDIS	77A/990/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

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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 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 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: IEC 61000-6-1).

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## ELECTROMAGNETIC COMPATIBILITY (EMC) –

### Part 3-2: Limits – Limits for harmonic current emissions (equipment input current $\leq 16$ 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 can be produced by equipment tested under specified conditions.

This part of IEC 61000 is applicable to electrical and electronic equipment having a rated 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 a rated input current up to and including 16 A per phase, is included in this document. Arc welding equipment intended for professional use, as specified in IEC 60974-1, is excluded from this document and can be subject to installation restrictions as indicated in IEC 61000-3-12.

The tests according to this document are type tests.

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

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

#### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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, *International Electrotechnical Vocabulary (IEV) – Part 161: Electromagnetic compatibility* (available at [www.electropedia.org](http://www.electropedia.org))

IEC 60155, *Glow-starters for fluorescent lamps*

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

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 61000-4-7:2002, *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*  
IEC 61000-4-7:2002/AMD1:2008