

# 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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## CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references .....	7
3 Terms and definitions .....	8
4 General .....	11
5 Classification of equipment.....	12
5.1 General.....	12
5.2 Description of lighting equipment .....	12
6 General requirements .....	13
6.1 General.....	13
6.2 Control methods .....	13
6.3 Harmonic current measurement .....	14
6.3.1 Test configuration.....	14
6.3.2 Measurement procedure.....	15
6.3.3 General requirements .....	15
6.3.4 Test observation period .....	17
6.4 Equipment in a rack or case.....	17
7 Harmonic current limits.....	17
7.1 General.....	17
7.2 Limits for Class A equipment.....	18
7.3 Limits for Class B equipment.....	19
7.4 Limits for Class C equipment .....	19
7.4.1 General .....	19
7.4.2 Rated power > 25 W .....	19
7.4.3 Rated power $\geq 5$ W and $\leq 25$ W .....	20
7.5 Limits for Class D equipment .....	21
Annex A (normative) Measurement circuit and supply source.....	23
A.1 Test circuit.....	23
A.2 Supply source .....	23
Annex B (normative) Type test conditions .....	26
B.1 General .....	26
B.2 Test conditions for television receivers (TV).....	26
B.2.1 General requirements .....	26
B.2.2 Measurement conditions.....	26
B.2.3 Test report.....	27
B.3 Test conditions for audio amplifiers.....	27
B.3.1 Conditions .....	27
B.3.2 Input signals and loads.....	27
B.4 Test conditions for video-cassette recorders .....	28
B.5 Test conditions for lighting equipment .....	28
B.5.1 General conditions.....	28
B.5.2 Lamps .....	28
B.5.3 Luminaires.....	28
B.5.4 Lighting control gear .....	28

B.5.5	DLT control devices .....	29
B.6	Test conditions for independent phase control dimmers for lighting equipment .....	29
B.7	Test conditions for vacuum cleaners .....	29
B.8	Test conditions for washing machines .....	29
B.9	Test conditions for microwave ovens .....	30
B.10	Test conditions for information technology equipment (ITE) .....	30
B.10.1	General conditions .....	30
B.10.2	Optional conditions for measuring emissions of IT equipment with external power supplies or battery chargers .....	31
B.11	Test conditions for cooking appliances .....	31
B.11.1	Induction hobs and hotplates .....	31
B.11.2	Hobs and hotplates other than induction cooking appliances .....	32
B.12	Test conditions for air conditioners .....	32
B.13	Test conditions for kitchen machines as defined in IEC 60335-2-14 .....	32
B.14	Test conditions for arc welding equipment which is not professional equipment .....	32
B.15	Test conditions for high pressure cleaners which are not professional equipment .....	33
B.16	Test conditions for refrigerators and freezers .....	33
B.16.1	General .....	33
B.16.2	Refrigerators and freezers with VSD .....	33
B.16.3	Refrigerators and freezers without VSD .....	34
	Bibliography .....	35
	Figure 1 – Flowchart for determining conformity .....	18
	Figure 2 – Illustration of the relative phase angle and current parameters described in 7.4.3 .....	20
	Figure A.1 – Measurement circuit for single-phase equipment .....	24
	Figure A.2 – Measurement circuit for three-phase equipment .....	25
	Table 1 – Limits for Class A equipment .....	21
	Table 2 – Limits for Class C equipment <sup>a</sup> .....	21
	Table 3 – Limits for Class D equipment .....	22
	Table 4 – Test observation period .....	22
	Table B.1 – Conventional load for arc welding equipment tests .....	33

## 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;

- 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/RV1

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.

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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).

## 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 60050-16, *International Electrotechnical Vocabulary (IEV) – Part 161: Electromagnetic compatibility* (available at [www.electropedia.org](http://www.electropedia.org))

IEC 60115, *Glow-starters for fluorescent lamps*

IEC 60269-3, *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