



**Elektromagnetisk kompatibilitet (EMC) -  
Del 3: Gränsvärden -  
Begränsning av spänningsfluktuationer och flimmar  
i lågspänningsdistributionssystem förorsakade av  
apparater med märkström högst 16A**

*Electromagnetic compatibility (EMC) -*

*Part 3: Limits*

*Section 3: Limitation of voltage fluctuations and flicker in low-voltage  
supply systems for equipment with rated current  $\leq 16A$*

Som svensk standard gäller europastandarden EN 61 000-3-3: 1995. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61 000-3-3: 1995.

**Nationellt förord**

Europastandarden EN 61 000-3-3: 1995

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- **IEC 1000-3-3, First edition, 1994 - Electromagnetic compatibility (EMC) -  
Part 3: Limits -  
Section 3: Limitation of voltage fluctuations  
and flicker in low-voltage supply systems for  
equipment with rated current  $\leq 16 A$**

utarbetad inom International Electrotechnical Commission, IEC.

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ICS 29.240.00

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Postadress: SIS, Box 3295, 103 66 Stockholm  
Telefon: 08 - 613 52 00. Telefax: 08 - 411 70 35

Upplysningar om **sakinnehållet** i standarden lämnas av SEK.  
Telefon: 08 - 750 78 20. Telefax: 08 - 751 84 70

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EUROPEAN STANDARD

EN 61000-3-3

NORME EUROPÉENNE

EUROPÄISCHE NORM

January 1995

ICS 29.240.00

Supersedes EN 60555-3:1987 and its amendment

Descriptors: Electromagnetic compatibility, disturbances, voltage fluctuation, type of voltage fluctuation, test conditions, assessment, calculation, measurement, flickermeter

English version

**Electromagnetic compatibility (EMC)**  
**Part 3: Limits**  
**Section 3: Limitation of voltage fluctuations and flicker**  
**in low-voltage supply systems for equipment with**  
**rated current  $\leq 16$  A**  
**(IEC 1000-3-3:1994)**

Compatibilité électromagnétique (CEM)  
Partie 3: Limites  
Section 3: Limitation des fluctuations de  
tension et du flicker dans les réseaux  
basse tension pour les équipements  
ayant un courant appelé  $\leq 16$ A  
(CEI 1000-3-3:1994)

Elektromagnetische Verträglichkeit  
(EMV)  
Teil 3: Grenzwerte  
Hauptabschnitt 3: Grenzwerte für  
Spannungsschwankungen und Flicker in  
Niederspannungsnetzen für Geräte mit  
einem Eingangsstrom  $\leq 16$  A  
(IEC 1000-3-3:1994)

This European Standard was approved by CENELEC on 1994-03-08. 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, 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 text of document 77A(CO)38, future edition 1 of IEC 1000-3-3:1994, prepared by SC 77A, Low-frequency phenomena, of IEC TC 77, Electromagnetic compatibility, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61000-3-3 on 1994-03-08.

This European Standard supersedes EN 60555-3:1987 + A1:1991.

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) 1995-07-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 1998-06-01

For products which have complied with EN 60555-3:1987 and its amendment A1:1991 before 1996-01-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 1998-06-01.

For products which were not in the scope of the earlier standard but are now covered in the new edition, the latest date of application of the new edition is 1998-06-01.

Annexes designated "normative" are part of the body of the standard.  
In this standard, annexes A and ZA are normative  
Annex ZA has been added by CENELEC.

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### Endorsement notice

The text of the International Standard IEC 1000-3-3:1994 was approved by CENELEC as a European Standard without any modification.

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## ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD  
WITH THE REFERENCES OF THE RELEVANT EUROPEAN PUBLICATIONS

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

NOTE : When the international publication has been modified by CENELEC common modifications, indicated by (mod), the relevant EN/HD applies.

IEC Publication -----	Date ----	Title -----	EN/HD -----	Date ----
50(161)	1990	International Electrotechnical Vocabulary (IEV) - Chapter 161: Electromagnetic compatibility	-	-
335-2-7	1993*	Safety of household and similar electrical appliances Part 2: Particular requirements for washing machines	-	-
335-2-11	1993*	Safety of household and similar electrical appliances Part 2: Particular requirements for tumbler dryers	-	-
725	1981	Considerations on reference impedances for use in determining the disturbance characteristics of household appliances and similar electrical equipment	-	-
868 A1	1986 1990	Flickermeter - Functional and design specifications	EN 60868	1993
1000-3-5	1994	Electromagnetic compatibility (EMC) Part 3: Limits - Section 5: Limitation of voltage fluctuations and flicker in low-voltage power supply systems for equipment with rated current greater than 16 A	-	-

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\* IEC 335-2-7:1984, mod., is harmonized as EN 60335-2-7:1990  
IEC 335-2-11:1984, mod., is harmonized as EN 60335-2-11:1989

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## INTRODUCTION

IEC 1000 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 (in so far as they do not fall under the responsibility of 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 9: Miscellaneous

Each part is further subdivided into sections which are to be published either as International Standards or as Technical Reports.

These standards and reports will be published in chronological order and numbered accordingly.

This section is a Product Family Standard.

## **ELECTROMAGNETIC COMPATIBILITY (EMC) –**

### **Part 3: Limits –**

#### **Section 3: Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current $\leq 16$ A**

##### **1 Scope**

This section of IEC 1000-3 is concerned with the limitation of voltage fluctuations and flicker impressed on the public low-voltage system.

It specifies limits of voltage changes which may be produced by an equipment tested under specified conditions and gives guidance on methods of assessment.

This section 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 of between 220 V and 250 V at 50 Hz line to neutral.

The tests according to this section are type tests. Particular test conditions are given in annex A and the test circuit is shown in figure 1.

##### **NOTES**

1 The limits in this section are based mainly on the subjective severity of the flicker imposed on the light from 230 V/60 W coiled-coil filament lamps by fluctuations of the supply voltage. For systems with nominal voltages less than 220 V, line to neutral and/or frequency of 60 Hz, the limits and reference circuit values have not yet been considered.

Special equipment which is not widely used and is designed in such a way that it is unable to comply with the requirements [limits] of this section may be subject to installation restrictions requiring the consent of the supply authority before connection.

2 A guide to the assessment of such equipment is given in technical report IEC 1000-3-5.

##### **2 Normative references**

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of the IEC and the ISO maintain registers of currently valid International Standards.

IEC 50(161): 1990, *International Electrotechnical Vocabulary (IEV) – Chapter 161: Electromagnetic compatibility*

IEC 335-2-7: 1993, *Safety of household and similar electrical appliances – Part 2: Particular requirements for washing machines*