SVENSK STANDARD SS-EN 61000-4-30

Fastställd	Utgåva	Sida	Ansvarig kommitté
2015-05-13	3	1 (1+72)	SEK TK EMC

Elektromagnetisk kompatibilitet (EMC) – Del 4-30: Mät- och provningsmetoder – Mätning av spänningsgodhet och elkvalitet

Electromagnetic compatibility (EMC) –
Part 4-30: Testing and measurement techniques –
Power quality measurement methods

Som svensk standard gäller europastandarden EN 61000-4-30:2015. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61000-4-30:2015.

Nationellt förord

Europastandarden EN 61000-4-30:2015

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 61000-4-30, Third edition, 2015 - Electromagnetic compatibility (EMC) - Part 4-30: Testing and measurement techniques - Power quality measurement methods**

utarbetad inom International Electrotechnical Commission, IEC.

Tidigare fastställd svensk standard SS-EN 61000-4-30, utgåva 2, 2009, gäller ej fr o m 2018-03-27.

ICS 33.100.99

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61000-4-30

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Supersedes EN 61000-4-30:2009

English Version

Electromagnetic compatibility (EMC) - Part 4-30: Testing and measurement techniques - Power quality measurement methods (IEC 61000-4-30:2015)

Compatibilité Electromagnétique (CEM) - Partie 4-30: Techniques d'essai et de mesure - Méthodes de mesure de la qualité de l'alimentation (IEC 61000-4-30:2015)

Elektromagnetische Verträglichkeit (EMV) - Teil 4-30: Prüf- und Messverfahren - Verfahren zur Messung der Spannungsqualität (IEC 61000-4-30:2015)

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

Ref. No. EN 61000-4-30:2015 E

SEK Svensk Elstandard

Foreword

The text of document 77A/873/FDIS, future edition 3 of IEC 61000-4-30, 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 61000-4-30:2015.

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)	2015-12-27
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2018-03-27

This document supersedes EN 61000-4-30:2009.

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.

Endorsement notice

The text of the International Standard IEC 61000-4-30:2015 was approved by CENELEC as a European Standard without any modification.

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

IEC 60044-1:1996	NOTE	Harmonized as EN 60044-1:1996.
IEC 60044-2:1997	NOTE	Harmonized as EN 60044-2:1997.
IEC 61000-2-2:2002	NOTE	Harmonized as EN 61000-2-2:2002.
IEC 61000-2-12	NOTE	Harmonized as EN 61000-2-12.
IEC 61000-4-19	NOTE	Harmonized as EN 61000-4-19.
IEC 61010 (Series)	NOTE	Harmonized as EN 61010 (Series).
IEC 61010-2-032	NOTE	Harmonized as EN 61010-2-032.
IEC 61869-1	NOTE	Harmonized as EN 61869-1.
IEC 61869-2	NOTE	Harmonized as EN 61869-2.
CISPR 16-1-1	NOTE	Harmonized as EN 55016-1-1.
CISPR 16-1-2	NOTE	Harmonized as EN 55016-1-2.
CISPR 16-2-1	NOTE	Harmonized as EN 55016-2-1.

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.

Publication	Year	Title	EN/HD	Year
IEC 60050	series	International Electrotechnical Vocabulary	-	series
IEC 61000-2-4	-	Electromagnetic compatibility (EMC) -- Part 2-4: Environment - Compatibility levels in industrial plants for low-frequency conducted disturbances	EN 61000-2-4	-
IEC 61000-3-8	-	Electromagnetic compatibility (EMC) -- Part 3-8: Limits - Signalling on low-voltage electrical installations - Emission levels, frequency bands and electromagnetic disturbance levels	-	-
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
IEC 61000-4-15	2010	Electromagnetic compatibility (EMC) -- Part 4-15: Testing and measurement techniques - Flickermeter - Functional and design specifications	EN 61000-4-15	2011
IEC 61180	series	High-voltage test techniques for low-voltage equipment	EN 61180	series
IEC 62586-1	-	Power quality measurement in power supply systems -- Part 1: Power Quality Instruments (PQI)	EN 62586-1	-
IEC 62586-2	-	Power quality measurement in power supply systems -- Part 2: Functional tests and uncertainty requirements	EN 62586-2	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 4-30: Testing and measurement techniques – Power quality measurement methods

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 61000-4-30 has been prepared by subcommittee 77A: EMC – Low- frequency phenomena, of IEC technical committee 77: Electromagnetic compatibility.

This standard forms part 4-30 of IEC 61000. It has the status of a basic EMC publication in accordance with IEC Guide 107.

This third edition cancels and replaces the second edition published in 2008. This edition constitutes a technical revision.

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

a) the measurement method for current, previously informative, is now normative with some changes;
b) the measurement method for RVC (rapid voltage change) has been added;

c) the measurement method for conducted emissions in the 2 kHz to 150 kHz range has been added in informative Annex C;

d) underdeviation and overdeviation parameters are moved to informative Annex D;

e) Class A and Class S measurement methods are defined and clarified, while Class B is moved to informative Annex E and considered for future removal;

f) measurement methods continue in this standard, but responsibility for influence quantities, performance, and test procedures are transferred to IEC 62586-2.

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

FDIS	Report on voting
77A/873/FDIS	77A/878/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 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 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 completed by a second number identifying the subdivision (example: 61000-6-1).

ELECTROMAGNETIC COMPATIBILITY (EMC) –

Part 4-30: Testing and measurement techniques – Power quality measurement methods

1 Scope

This part of IEC 61000-4 defines the methods for measurement and interpretation of results for power quality parameters in a.c. power supply systems with a declared fundamental frequency of 50 Hz or 60 Hz.

Measurement methods are described for each relevant parameter in terms that give reliable and repeatable results, regardless of the method's implementation. This standard addresses measurement methods for in-situ measurements.

Measurement of parameters covered by this standard is limited to conducted phenomena in power systems. The power quality parameters considered in this standard are power frequency, magnitude of the supply voltage, flicker, supply voltage dips and swells, voltage interruptions, transient voltages, supply voltage unbalance, voltage harmonics and interharmonics, mains signalling on the supply voltage, rapid voltage changes, and current measurements. Emissions in the 2 kHz to 150 kHz range are considered in Annex C (informative), and over- and underdeviations are considered in Annex D (informative). Depending on the purpose of the measurement, all or a subset of the phenomena on this list may be measured.

NOTE 1 Test methods for verifying compliance with this standard can be found in IEC 62586-2.

NOTE 2 The effects of transducers inserted between the power system and the instrument are acknowledged but not addressed in detail in this standard. Guidance about effects of transducers can be found IEC TR 61869-103.

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 (all parts), *International Electrotechnical Vocabulary (IEV)* (available at www.electropedia.org)

IEC 61000-2-4, *Electromagnetic compatibility (EMC) – Part 2-4: Environment – Compatibility levels in industrial plants for low-frequency conducted disturbances*

IEC 61000-3-8, *Electromagnetic compatibility (EMC) – Part 3: Limits – Section 8: Signalling on low-voltage electrical installations – Emission levels, frequency bands and electromagnetic disturbance levels*

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

IEC 61000-4-15:2010, *Electromagnetic compatibility (EMC) – Part 4-15: Testing and measurement techniques – Flickermeter – Functional and design specifications*

IEC 61180 (all parts), *High-voltage test techniques for low voltage equipment*

IEC 62586-1, *Power quality measurement in power supply systems – Part 1: Power quality instruments (PQI)*

IEC 62586-2, *Power quality measurement in power supply systems – Part 2: Functional tests and uncertainty requirements*