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STN	**Elektromagnetická kompatibilita (EMC) Časť 4-30: Metódy skúšania a merania Metódy merania kvality napájania**	**STN EN IEC 61000-4-30** 33 3432

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

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 03/26

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EN IEC 61000-4-30

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English Version

Electromagnetic compatibility (EMC) - Part 4-30: Testing and measurement techniques - Power quality measurement methods (IEC 61000-4-30:2025)

Compatibilité électromagnétique (CEM) - Partie 4-30: Techniques d'essai et de mesure - Méthodes de mesure de la qualité de l'alimentation (IEC 61000-4-30:2025)

Elektromagnetische Verträglichkeit (EMV) - Teil 4-30: Prüf- und Messverfahren - Verfahren zur Messung der Spannungsqualität (IEC 61000-4-30:2025)

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 77A/1253/FDIS, future edition 4 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 IEC 61000-4-30:2025.

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) 2026-12-31
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2028-12-31

This document supersedes EN 61000-4-30:2015 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

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Endorsement notice

The text of the International Standard IEC 61000-4-30:2025 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 standard indicated:

IEC 62586-1	NOTE	Approved as EN 62586-1
IEC 61000-2-2:2002	NOTE	Approved as EN 61000-2-2:2002 (not modified)
IEC 61000-2-12	NOTE	Approved as EN 61000-2-12
IEC 61000-4-4:2012	NOTE	Approved as EN 61000-4-4:2012 (not modified)
IEC 61000-4-19	NOTE	Approved as EN 61000-4-19
IEC 61000-6-3:2020	NOTE	Approved as EN IEC 61000-6-3:2021 (not modified)
IEC 61010-1	NOTE	Approved as EN 61010-1
IEC 61010-2-030	NOTE	Approved as EN IEC 61010-2-030
IEC 61010-2-032	NOTE	Approved as EN IEC 61010-2-032
IEC 61557-12:2018	NOTE	Approved as EN IEC 61557-12:2022 (not modified)
IEC 61869-2:2012	NOTE	Approved as EN 61869-2:2012 (not modified)
IEC 61869-3:2011	NOTE	Approved as EN 61869-3:2011 (not modified)
IEC 62428:2008	NOTE	Approved as EN 62428:2008 (not modified)
CISPR 16-1-1:2019	NOTE	Approved as EN IEC 55016-1-1:2019 (not modified)
CISPR 16-2-1:2014	NOTE	Approved as EN 55016-2-1:2014 (not modified)

Annex ZA
(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.cencenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60050-161	1990	International Electrotechnical Vocabulary. Chapter 161: Electromagnetic compatibility	-	-
+ A9	2019		-	-
IEC 61000-2-4	2024	Electromagnetic compatibility (EMC) - Part 2-4: Environment - Compatibility levels in power distribution systems in industrial locations for low-frequency conducted disturbances	EN IEC 61000-2-4	2024
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 62586-2	-	Power quality measurement in power supply systems - Part 2: Functional tests and uncertainty requirements	EN 62586-2	-

IEC 61000-4-30

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INTERNATIONAL STANDARD

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

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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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9) IEC draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). IEC takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, IEC had not received notice of (a) patent(s), which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at https://patents.iec.ch. IEC shall not be held responsible for identifying any or all such patent rights.

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

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

This fourth edition cancels and replaces the third edition published in 2015. This edition constitutes a technical revision.

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

a) IEC 61000-4-30:2015/AMD1:2021 and IEC 61000-4-30:2015/COR1:2016 were included.

b) The measurement method for rapid voltage changes (RVC) has been corrected and extended.

c) The measurement method for voltage events has been updated and extended.

d) Annex C was divided into 2 parts:

   1) Annex C: The measurement method from IEC 61000-4-7:2002 and IEC 61000-4-7:2002/AMD1:2008, Annex B for conducted emissions in the 2 kHz to 9 kHz range has been separated.

   2) Annex D: A new measurement method for conducted emissions in the 9 kHz to 150 kHz range has been added.

e) Annex D (underdeviation and overdeviation parameters) was removed.

f) Annex E (Class B) was removed.

The text of this International Standard is based on the following documents:

Draft	Report on voting
77A/1253/FDIS	77A/1268/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

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 document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

– reconfirmed,

– withdrawn, or

– revised.

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: IEC 61000-6-1).

1 Scope

This part of IEC 61000-4 defines the methods for measurement and interpretation of results for power quality parameters in AC 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 document addresses measurement methods for in-situ measurements.

This document covers two classes of measurement methods (Class A and Class S). The classes of measurement are specified in Clause 4.

NOTE 1 In this document, "A" stands for "advanced" and "S" stands for "surveys".

Measurement of parameters covered by this document is limited to conducted phenomena in power systems. The power quality parameters considered in this document 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, rapid voltage changes, mains communicating system (MCS) voltages, magnitude of current, harmonic currents, interharmonic currents and current unbalance.

Emissions in the 2 kHz to 150 kHz range are considered in Annex C and Annex D.

Depending on the purpose of the measurement, all or a subset of the phenomena on this list can be measured.

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

NOTE 3 The effects of transducers inserted between the power system and the instrument are acknowledged but not addressed in detail in this document. Guidance about effects of transducers can be found IEC TR 61869-103.

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 60050-161:1990, *International Electrotechnical Vocabulary (IEV) - Part 161: Electromagnetic compatibility*
IEC 60050-161:1990/AMD9:2019

IEC 61000-2-4:2024, *Electromagnetic compatibility (EMC) - Part 2-4: Environment - Compatibility levels in power distribution systems in industrial locations for low-frequency conducted disturbances*

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