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

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This standard includes the English version of the European Standard.

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English Version

**Power quality measurement in power supply systems -
Part 2: Functional tests and uncertainty requirements
(IEC 62586-2:2017)**

Mesure de la qualité de l'alimentation dans les réseaux
d'alimentation - Partie 2: Essais fonctionnels et exigences
d'incertitude
(IEC 62586-2:2017)

Messung der Spannungsqualität in
Energieversorgungssystemen - Teil 2: Funktionsprüfungen
und Anforderungen an die Messunsicherheit
(IEC 62586-2:2017)

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European foreword

The text of document 85/525/CDV, future edition 2 of IEC 62586-2, prepared by IEC/TC 85 "Measuring equipment for electrical and electromagnetic quantities" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62586-2:2017.

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) 2018-02-25
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IEC 60359	NOTE	Harmonized as EN 60359.
IEC 61000-4-30:2008	NOTE	Harmonized as EN 61000-4-30:2009 ¹⁾ (not modified).

¹⁾ Superseded by EN 61000-4-30:2015 (IEC 61000-4-30:2015): DOW = 2018-03-27.

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

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
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 61000-4-7	-	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	-
IEC 61000-4-15	-	Electromagnetic compatibility (EMC) - Part 4-15: Testing and measurement techniques - Flickermeter - Functional and design specifications	EN 61000-4-15	-
IEC 61000-4-30	2015	Electromagnetic Compatibility (EMC) - Part 4-30: Testing and measurement techniques - Power quality measurement methods	EN 61000-4-30	2015
IEC 62586-1	2013	Power quality measurement in power supply systems - Part 1: Power Quality Instruments (PQI)	EN 62586-1	2014
ISO/IEC Guide 98-3 2008		Uncertainty of measurement - Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)	-	-



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Edition 2.0 2017-03

INTERNATIONAL STANDARD



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





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Edition 2.0 2017-03

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Power quality measurement in power supply systems – Part 2: Functional tests and uncertainty requirements

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

POWER QUALITY MEASUREMENT IN POWER SUPPLY SYSTEMS –**Part 2: Functional tests and uncertainty requirements**

FOREWORD

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International Standard IEC 62586-2 has been prepared by IEC technical committee 85: Measuring equipment for electrical and electromagnetic quantities.

This second edition cancels and replaces the first edition published in 2013. This edition constitutes a technical revision.

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

- a) test procedures for RVC and current have been added;
- b) mistakes have been fixed.

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

CDV	Report on voting
85/525/CDV	85/571/RVC

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 of the IEC 62586 series, published under the general title *Power quality measurement in power supply systems*, can be found on the IEC website.

The contents of the corrigendum of November 2014 have been included in this copy.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC website 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
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INTRODUCTION

Power quality is more and more important worldwide in power supply systems and is generally assessed by power quality instruments.

This part of IEC 62586 specifies functional and uncertainty tests intended to verify the compliance of a product to class A and class S measurement methods defined in IEC 61000-4-30.

This document therefore complements IEC 61000-4-30.

POWER QUALITY MEASUREMENT IN POWER SUPPLY SYSTEMS –

Part 2: Functional tests and uncertainty requirements

1 Scope

This part of IEC 62586 specifies functional tests and uncertainty requirements for instruments whose functions include measuring, recording, and possibly monitoring power quality parameters in power supply systems, and whose measuring methods (class A or class S) are defined in IEC 61000-4-30.

This document applies to power quality instruments complying with IEC 62586-1.

This document can also be referred to by other product standards (e.g. digital fault recorders, revenue meters, MV or HV protection relays) specifying devices embedding class A or class S power quality functions according to IEC 61000-4-30.

These requirements are applicable in single-, dual- (split phase) and 3-phase AC power supply systems at 50 Hz or 60 Hz.

It is not the intent of this document to address user interface or topics unrelated to device measurement performance.

The document does not cover post-processing and interpretation of the data, for example with dedicated software.

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

IEC 61000-4-7, *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 61000-4-15, *Electromagnetic compatibility (EMC) – Part 4-15: Testing and measurement techniques – Flickermeter – Functional and design specifications*

IEC 61000-4-30:2015, *Electromagnetic compatibility (EMC) – Part 4-30: Testing and measurement techniques – Power quality measurement methods*
IEC 62586-1:2013, *Power quality measurement in power supply systems – Part 1: Power quality instruments (PQI)*

ISO/IEC Guide 98-3:2008, *Uncertainty of measurement – Part 3: Guide to the expression of uncertainty in measurement (GUM:1995)*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN