IEC 62586-2

Edition 2.1 2021-09
CONSOLIDATED VERSION

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

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

Mesure de la qualité de l'alimentation dans les réseaux d'alimentation –
Partie 2: Essais fonctionnels et exigences d'incertitude

IEC 62586-2:2017+AMD1:2021-09 CSV(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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POWER QUALITY MEASUREMENT IN POWER SUPPLY SYSTEMS –

Part 2: Functional tests and uncertainty requirements

FOREWORD

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IEC 62586-2 edition 2.1 contains the second edition (2017-03) [documents 85/525/CDV and 85/571/RVC], its corrigendum 1 (2018-06) and its amendment 1 (2021-09) [documents 85/770/FDIS and 85/795/RVD].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

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

This second 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.

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 committee has decided that the contents of the base publication and its amendment will remain unchanged until the stability date indicated on the IEC web site under 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- withdrawn,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

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)*