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Power quality measurement in power supply systems -
Part 3: Maintenance tests, calibration

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Power quality measurement in power supply systems - Part 3: Maintenance tests, calibration

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IEC TS 62586-3 has been prepared by IEC technical committee 85: Measuring equipment for electrical and electromagnetic quantities. It is a Technical Specification.

The text of this Technical Specification is based on the following documents:

Draft	Report on voting
85/948/DTS	85/962/RVDTS

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 Technical Specification 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 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 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- withdrawn, or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.

1 Scope

This part of IEC 62586, which is a Technical Specification, describes a procedure used for maintenance tests of individual power quality instruments. Users of these instruments need to ensure the conformity of the individual power quality instrument for stationary use with the requirements of IEC 62586-1. This is achieved by periodic maintenance tests as defined in this document.

Reference instruments used for these tests need to be calibrated periodically to maintain traceability as required by ISO/IEC 17025. This document describes a calibration programme matching the needs of users carrying out maintenance tests.

The procedure for maintenance tests described here is a suggestion intended to be sufficient in most practical cases for the common principles of implementation of power quality instruments. This document is informative and does not limit the freedom of users with advanced knowledge of their instruments or with special needs to implement specific programmes in any way.

This document is applicable to power quality instruments complying with IEC 62586-1 and whose compliance with IEC 61000-4-30 has been certified based on a type test according to IEC 62586-2.

Adjustment, type test, routine test and field test are out of scope of this document.

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 61000-4-7:2002, *Electromagnetic compatibility (EMC) - Part 4-7: Testing and measurement techniques - General guide on harmonics and telharmonic measurements and instrumentation, for power supply systems and equipment connected thereto*

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

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

ISO/IEC 17025:2017, *General requirements for the competence of testing and calibration laboratories*

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

ISO/IEC Guide 98-4, *Uncertainty of measurement - Part 4: Role of measurement uncertainty in conformity assessment*