

Australian/New Zealand Standard™

Electromagnetic compatibility (EMC)

**Part 4.30: Testing and measurement
techniques—Power quality
measurement methods**



AS/NZS 61000.4.30:2012

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-034, Power Quality. It was approved on behalf of the Council of Standards Australia on 4 May 2012 and on behalf of the Council of Standards New Zealand on 26 April 2012.

This Standard was published on 22 May 2012.

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Australian/New Zealand Standard™

Electromagnetic compatibility (EMC)

Part 4.30: Testing and measurement techniques—Power quality measurement methods

Originated as AS/NZS 61000.4.30:2007.
Second edition 2012.

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ISBN 978 1 74342 115 4

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-034, Power Quality, to supersede AS/NZS 61000.4.30:2007, *Electromagnetic compatibility (EMC)—Part 4.30: Testing and measurement techniques—Power quality measurement methods*.

The objective of this Standard is to define the methods for measurement and interpretation of results for power quality parameters in 50/60 Hz a.c. power supply 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 and rapid voltage changes.

This Standard is identical with, and has been reproduced from IEC 61000-4-30, Ed.2.0 (2008), *Electromagnetic compatibility (EMC)—Part 4-30: Testing and measurement techniques—Power quality measurement methods*.

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<i>Reference to International Standard</i>	<i>Australian/New Zealand Standard</i>
IEC	AS/NZS
61000 Electromagnetic compatibility (EMC)	61000 Electromagnetic compatibility (EMC)
61000-2-2 Part 2-2: Environment—Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems	61000.2.2 Part 2.2: Environment—Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems
61000-2-4 Part 2-4: Environment—Compatibility levels in industrial plants for low-frequency conducted disturbance	61000.2.4 Part 2.4: Environment—Compatibility levels in industrial plants for low-frequency conducted disturbances
61000-4-4 Part 4-4: Testing and measurement techniques—Electrical fast transient/burst immunity test	61000.4.4 Part 4.4: Testing and measurement techniques—Electrical fast transient/burst immunity test
61000-4-15 Part 4-15: Testing and measurement techniques—Flickermeter—Functional and design specifications	61000.4.15 Part 4.15: Testing and measurement techniques—Flickermeter—Function and design specifications

The term ‘informative’ has been used in this Standard to define the application of the annex to which it applies. An ‘informative’ annex is only for information and guidance.

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FOREWORD

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

- Adjustments, clarifications, and corrections to class A and class B measurement methods.
- A new category, class S, intended for survey instruments, has been added.
- A new Annex C gives guidance on instruments.

AUSTRALIAN/NEW ZEALAND STANDARD

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 50/60 Hz a.c. power supply systems.

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 voltage phenomena that can be conducted in a power system. 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 and rapid voltage changes. Depending on the purpose of the measurement, all or a subset of the phenomena on this list may be measured.

NOTE 1 Information about current parameters may be found in A.3 and A.5.

This standard gives measurement methods and appropriate performance requirements, but does not set thresholds.

The effects of transducers inserted between the power system and the instrument are acknowledged but not addressed in detail in this standard. Precautions on installing monitors on live circuits are addressed.

NOTE 2 Some guidance about effects of transducers may be found in IEC 61557-12.

2 Normative references

The following referenced documents are indispensable for the application 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, *International Electrotechnical Vocabulary (IEV) – Chapter 161: Electromagnetic compatibility*

IEC 61000-2-2:2002, *Electromagnetic compatibility (EMC) – Part 2-2: Environment – Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems*

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*