

AS/NZS 61000.4.7:1999  
IEC 61000-4-7:1991  
(Incorporating Amendment No. 1)

AS/NZS 61000.4.7

Australian/New Zealand Standard™

**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 title: Electromagnetic compatibility (EMC), Part 4: Testing and measurement techniques—Section 7: General guide on harmonics and interharmonics measurements and instrumentation, for power supply systems and equipment connected thereto]



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## **AS/NZS 61000.4.7:1999**

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 23 November 1998 and on behalf of the Council of Standards New Zealand on 5 December 1998. It was published on 5 February 1999.

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The following interests are represented on Committee EL-034:

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Australian Institute of Petroleum  
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## **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**

First published as AS/NZS 61000.4.7:1999.  
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## PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-034, Power Quality.

*This Standard incorporates Amendment No. 1 (December 2001). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.*

It is one of a series of Parts which will replace the AS 2279 series on disturbances in mains supply networks by adopting relevant IEC Standards in the IEC 61000, *Electromagnetic compatibility (EMC)*—Part 4: *Testing and measurement techniques series*.

This Standard is technically equivalent to and has been reproduced from IEC 61000-4-7:1991, *Electromagnetic compatibility (EMC)*—Part 4: *Testing and measurement techniques*—Section 7: *General guide on harmonics and interharmonics measurements and instrumentation, for power supply systems and equipment connected thereto*. All existing amendments and corrigenda to IEC 61000-4-7:1991 have been incorporated into the body of this Standard.

Variations necessary for Australian/New Zealand requirements are given in Annex ZZ and are indicated by a bar set in the left-hand margin adjacent to the affected text.

The objective of this series of Standards is to provide manufacturers and suppliers of electricity and users of electrical equipment intended for connection to an electrical network, with limits for voltage disturbances and flicker produced by that equipment and the methods for ascertaining compliance to them in order to maintain electromagnetic compatibility within the electrical network.

When complete, the AS/NZS 61000 series will comprise the following Parts:

- Part 2.3 Environment—Description of the environment?Radiated and non-network-frequency-related conducted phenomena
- Part 2.5 Environment—Classification of electromagnetic environments
- Part 3.2 Limits—Limits for harmonic current emission (equipment input current less than or equal to 16 A per phase)
- Part 3.3 Limits—Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current less than or equal to 16 A
- Part 3.4 Limits—Limitation of emission of harmonic currents in low-voltage power supply systems for equipment with rated current greater than 16 A
- Part 3.5 Limits—Limitation of voltage fluctuations and flicker in low-voltage power supply systems for equipment with rated current greater than 16 A
- Part 3.6 Limits—Assessment of emission limit for distorting loads in MV and HV power systems
- Part 3.7 Limits—Assessment of emission limits for fluctuating loads in MV and HV power systems
- Part 4.1 Testing and measurement techniques—Overview of immunity tests
- Part 4.3 Testing and measurement techniques—Radiated, radio-frequency, electromagnetic field immunity test
- Part 4.5 Testing and measurement techniques—Single immunity test
- Part 4.7 Testing and measurement techniques—General guide on harmonics and interharmonics measurements and instrumentation, for power supply systems and equipment connected thereto (this Standard)

This Standard should be read in conjunction with the regulations, service rules and installation rules of the supply authority approving the connection.

This Standard is concerned with the limitation of voltage fluctuations and flicker impressed on a low-voltage electricity supply system. It specifies limits of voltage changes from equipment such as motor-driven appliances, cooking appliances, lighting equipment and direct water heaters with rated current less than or equal to 16 A under specified conditions. The tests and conditions are included.

As this Standard is reproduced from an International Standard, the following applies:

- (a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.
- (b) In the source text 'this standard' should read 'this Australian/New Zealand Standard'.
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References to International Standards should be replaced by references to equivalent Australian or Australian/New Zealand Standards, as follows:

<i>Reference to International Standard or other publications</i>	<i>Australian or Joint Australian/New Zealand Standard</i>
IEC	AS/NZS
60050 International Electrotechnical Vocabulary (IEV)	—
60050(161) Chapter 161: Electromagnetic compatibility	—
60348 Safety requirements for electronic measuring apparatus	—
60555 Disturbances in supply systems caused by household appliances and similar electrical equipment	61000 Electromagnetic compatibility (EMC)
60555-1 Part 1: Definitions	61000.3.2 Part 3.2: Limits—Limits for harmonic current emissions (equipment input current less than or equal to 16 A per phase)
60555-2 Part 2: Harmonics	—
60801 Electromagnetic compatibility for industrial-process measurement and control equipment	—
60801-2 Part 2: Electrostatic discharge	—

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