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IEC 61000-4-14, Ed.1.2 (2009)

AS/NZS 61000.4.14:2012

Australian/New Zealand Standard™

Electromagnetic compatibility (EMC)

Part 4.14: Testing and measurement techniques—Voltage fluctuation immunity test for equipment with input current not exceeding 16 A per phase

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.
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The following are represented on Committee EL-034:

Australian Chamber of Commerce and Industry
Australian Industry Group
Australian Information Industry Association
Bureau of Steel Manufacturers of Australia
Consumer Electronics Suppliers Association
Consumers Federation of Australia
Electrical Regulatory Authorities Council
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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR AS/NZS 61000.4.14.

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Part 4.14: Testing and measurement techniques—Voltage fluctuation immunity test for equipment with input current not exceeding 16 A per phase

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-034, Power Quality, to supersede AS/NZS 61000.4.14:2007, *Electromagnetic compatibility (EMC)*—Part 4.14: *Testing and measurement techniques—Voltage fluctuation immunity test*.

The objective of this Standard is to establish a common reference for evaluating the immunity of electric and electronic equipment when subjected to positive and negative low amplitude voltage fluctuations.

This Standard is identical with, and has been reproduced from IEC 61000-4-14, Ed.1.2 (2009), *Electromagnetic compatibility (EMC)*—Part 4-14: *Testing and measurement techniques—Voltage fluctuation immunity test for equipment with input current not exceeding 16 A per phase*.

IEC 61000-4-14, Ed.1.2 (2009) consists of the IEC 61000-4-14, Ed.1.0 (1999), its Amendment 1 (2001), and its Amendment 2 (2009). A vertical line in the margin of the source document shows where the base publication has been modified by Amendments 1 and 2.

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

(a) Its number appears on the cover and title page while the International Standard number appears only on the cover.

(b) In the source text ‘this part of IEC 61000’ should read ‘this part of AS/NZS 61000’.

(c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
IEC		AS/NZS	
60068	Environmental testing	60068	Environmental testing
60068-1	Part 1: General and guidance	60068.1	Part 1: General and guidance
61000	Electromagnetic compatibility (EMC)	61000	Electromagnetic compatibility (EMC)
61000-2-4	Part 2-4: Environment—Compatibility levels in industrial plants for low-frequency conducted disturbances	61000.2.4	Part 2.4: Environment—Compatibility levels in industrial plants for low-frequency conducted disturbances

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 consolidated version of IEC 61000-4-14 consists of the first edition (1999), its amendment 1 (2001) and its amendment 2 (2009).

The technical content is therefore identical to the base edition and its amendments and has been prepared for user convenience.

A vertical line in the margin shows where the base publication has been modified by amendments 1 and 2.

AUSTRALIAN/NEW ZEALAND STANDARD

Electromagnetic compatibility (EMC)

Part 4.14:
Testing and measurement techniques—Voltage fluctuation immunity test for equipment with input current not exceeding 16 A per phase

1 Scope

This part of IEC 61000 is a basic electromagnetic compatibility (EMC) publication. It considers immunity tests for electrical and/or electronic equipment in their electromagnetic environment. Only conducted phenomena are considered, including immunity tests for equipment connected to public and industrial power supply networks.

This part aims to establish a reference for evaluating the immunity of electric and electronic equipment when subjected to positive and negative low amplitude voltage fluctuations.

The voltage fluctuations considered by this standard do not include flicker, which is a physiological phenomenon due to lighting luminance fluctuations.

This standard applies to electrical and/or electronic equipment that have a rated input current up to 16 A per phase. It does not apply to electrical and/or electronic equipment connected to d.c. or a.c. 400 Hz distribution networks. Tests concerning these networks will be covered by other IEC standards.

The immunity test levels required for a specific electromagnetic environment, together with the performance criteria, are indicated in the product, product family or generic standards as applicable. However, most product groups do not have a history of being susceptible to voltage fluctuations. Consequently, testing for these phenomena is often not required.

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 60068-1, *Environmental testing – Part 1: General and guidance*

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

3 General

3.1 Effects of voltage fluctuations

Electrical and electronic equipment may be affected by voltage fluctuations. Examples of these effects include the following:

– degradation of performances in equipment using storage devices (e.g. capacitors);

– loss of function in control systems;