# Australian/New Zealand Standard<sup>™</sup>

**Electromagnetic compatibility (EMC)** 

Part 3.3: Limits—Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection (IEC 61000-3-3, Ed. 1.2(2005) MOD)





#### AS/NZS 61000.3.3:2006

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 27 June 2006 and on behalf of the Council of Standards New Zealand on 23 June 2006.

This Standard was published on 25 August 2006.

The following are represented on Committee EL-034:

Australian Chamber of Commerce and Industry Australian Electrical and Electronic Manufacturers Association Australian Energy Market Commission Australian Information Industry Association Bureau of Steel Manufacturers of Australia Consumers Federation of Australia Electrical Regulatory Authorities Council Electricity Engineers Association (New Zealand) **Energy Networks Association Engineers** Australia Ministry of Economic Development (New Zealand) National Measurement Institute New Zealand Coordinating Committee on Power & Telecommunication Systems **Telstra** Corporation University of Canterbury New Zealand University of Wollongong

#### Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Web Shop at www.standards.com.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

Alternatively, both organizations publish an annual printed Catalogue with full details of all current Standards. For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

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 06160.

Australian/New Zealand Standard<sup>™</sup>

# **Electromagnetic compatibility (EMC)**

Part 3.3: Limits—Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current ≤16 A per phase and not subject to conditional connection (IEC 61000-3-3, Ed. 1.2(2005) MOD)

Originated in Australia as AS 2279.3—1985. Jointly revised and redesignated as AS/NZS 61000.3.3:1998. Previous edition AS/NZS 61000.3.3:2003. Third edition 2006.

### COPYRIGHT

© Standards Australia/Standards New Zealand

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher.

Jointly published by Standards Australia, GPO Box 476, Sydney, NSW 2001 and Standards New Zealand, Private Bag 2439, Wellington 6020

ii

### PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-034, Power Quality, to supersede AS/NZS 61000.3.3:2003.

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

This Standard is an adoption with national modifications and has been reproduced from IEC 61000-3-3, Ed. 1.2 (2005), *Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current (16 A per phase and not subject to conditional connection, and has been varied as indicated to take account of Australian/New Zealand conditions.* 

Variations to IEC 61000-3-3, Ed. 1.2 (2005) are indicated at the appropriate places throughout this standard. Strikethrough (example) identifies IEC text, tables and figures which, for the purposes of this Australian/New Zealand Standard, are deleted. Where text, tables or figures are added, each is set in its proper place and identified by shading (example). Added figures are not themselves shaded, but are identified by a shaded border.

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 'IEC 61000-3-3' should read 'AS/NZS 61000.3.3'.
- (c) A full point should be substituted for a comma when referring to a decimal marker.

The terms 'normative' and 'informative' are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

iii

## CONTENTS

## Page

Introduction iv			
1	Scop	e	1
2	Normative references		1
3	Definitions		2
4	Assessment of voltage changes, voltage fluctuations and flicker		4
	4.1	Assessment of a relative voltage change, "d"	4
	4.2	Assessment of the short-term flicker value, P <sub>st</sub>	4
	4.3	Assessment of long-term flicker value, P <sub>lt</sub>	6
5	Limits		6
6	S Test conditions		7
	6.1	General	7
	6.2	Measurement accuracy	7
	6.3	Test supply voltage	8
	6.4	Reference impedance	8
	6.5	Observation period	8
	6.6	General test conditions	8
Ann	Annex A (normative) Application of limits and type test conditions for specific equipment		
Ann	Annex B (normative) Test conditions and procedures for measuring d <sub>max</sub> voltage changes caused by manual switching		



This is a free preview. Purchase the entire publication at the link below:

**Product Page** 

S Looking for additional Standards? Visit Intertek Inform Infostore

> Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation