AS 61800.3—2001 IEC 61800.3:1996

Australian Standard<sup>™</sup>

Adjustable speed electrical power drive systems

Part 3: EMC product standard including specific test methods



This Australian Standard was prepared by Committee EL-027, Power Electronics. It was approved on behalf of the Council of Standards Australia on 17 September 2001 and published on 16 November 2001.

The following interests are represented on Committee EL-027:

Australian Communications Authority

Australian Electrical and Electronic Manufacturers Association

Bureau of Steel Manufacturers of Australia

Department of Defence (Australia)

Electricity Supply Association of Australia

Monash University

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 Standards may also be withdrawn.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 Standards can be found by visiting the Standards Australia web site at www.standards.com.au and looking up the relevant Standard in the on-line catalogue.

Alternatively, the printed Catalogue provides information current at 1 January each year, and the monthly magazine, *The Australian Standard*, has a full listing of revisions and amendments published each month.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Contact us via email at mail@standards.com.au, or write to the Chief Executive, Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001.

This Standard was issued in draft form for comment as DR 01137.

Australian Standard<sup>™</sup>

# Adjustable speed electrical power drive systems

# Part 3: EMC product standard including specific test methods

First published as AS 61800.3—2001.

### COPYRIGHT

© Standards Australia International

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.

Published by Standards Australia International Ltd GPO Box 5420, Sydney, NSW 2001, Australia ISBN 0 7337 3444 8 ii

### PREFACE

This Standard was prepared by the Standards Australia Committee EL-027, Power Electronics.

The objective of this Standard is to provide manufacturers, regulators, test laboratories and users with electromagnetic compatibility (EMC) requirements for electrical power drives.

This Standard has been reproduced from IEC 61800-3:1996, Adjustable speed electrical power drive systems, Part 3: EMC product standard including specific test methods. Some minor editorial changes have been made.

In January 1997, the IEC commenced numbering its Standards from 60000 by adding 60000 to the number of each existing Standard. This coordinates IEC numbering with ISO numbering. During the transition period an IEC Standard might be identified by its new number or its old number (for example, IEC 60050 or IEC 50).

A reference to an International Standard identified in the Normative References Clause by strikethrough (example) is replaced by a reference to the Australian or Australian/New Zealand Standard(s) listed immediately thereafter and identified by shading (example). Where the struck-through referenced document and the referenced Australian or Australian/New Zealand Standard are identical, this is indicated in parenthesis after the title of the latter.

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 Standard'.
- (c) A full point should be substituted for a comma when referring to a decimal marker.

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.

iii

## CONTENTS

#### Clause

1	Scop	Scope and object 1			
2	Norn	Iormative references			
3	Defir	nitions			
4	Common requirements			9	
	4.1	.1 System aspects		9	
	4.2	Tests			
		4.2.1	General conditions	9	
		4.2.2	Test report	10	
	4.3	Docum	entation for the user	10	
5	Immunity requirements1				
	5.1	General conditions			
		5.1.1	Acceptance criteria (performance criteria)	11	
		5.1.2	Selection of intrinsic or specific performance	12	
		5.1.3	Conditions during the test	12	
	5.2	Basic i	mmunity requirements – low-frequency disturbances	13	
		5.2.1	Harmonics and commutation notches / voltage distortion	13	
		5.2.2	Voltage changes, fluctuations, dips and short interruptions	14	
		5.2.3	Voltage unbalance and frequency variations	15	
		5.2.4	Supply influences	15	
	5.3	Basic immunity requirements – high-frequency disturbances			
		5.3.1	First environment	16	
		5.3.2	Second environment	16	
		5.3.3	Immunity against electromagnetic fields	17	
	5.4	Application of immunity requirements – statistical aspect19		19	
6	Emission requirements			19	
	6.1	Basic e	emission limits in the low-frequency area	19	
		6.1.1	Commutation notches	19	
		6.1.2	Harmonics and interharmonics	20	
		6.1.3	Voltage fluctuations	21	
		6.1.4	Common mode harmonic emission (low-frequency common	04	
	6.2 Conditions during high-frequency tests		۱∠		
	0.2	6 2 1	General measurement requirements	22 22	
		622	Connection requirements	22 22	
	63	0.2.2 Basic c	Some client requirements	22	
	0.5	631	First environment	23	
		632	Second environment	20	
	6.4 Application of emission requirements – statistical aspects		27		
7	Minimum requirements for safety aspects			27 27	
	7 1	7.1 Safety during immunity tests			
	7.1 7.2	2 Safety during operation			
	1.2 7.2	Safety related to this standard			
	1.5	Jaroty			

## Page



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