Australian Standard™

Standard voltages

[Modified and including the full text of IEC 60038:1983]

Standards Australia

This Australian Standard was prepared by Committee EL/40, Standard Voltages, Current Ratings and Frequencies. It was approved on behalf of the Council of Standards Australia on 17 December 1999 and published on 23 February 2000.

The following interests are represented on Committee EL/40:

Australian Electrical and Electronic Manufacturers Association

Consumer Electronics Suppliers Association

Electricity Supply Association of Australia

Institution of Engineers, Australia

Ministry of Commerce, New Zealand

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL/40, Standard Voltages, Current Ratings and Frequencies, to supersede AS 2926—1987, *Standard voltages—Alternating (50 Hz) and direct*.

This Standard is the result of a consensus among representatives on the Joint Committee to produce it as an Australian Standard.

This Standard is based on and contains the full text of, but is not equivalent to, IEC 60038:1983, *IEC standard voltages*, incorporating its Amendment 1:1994 and Amendment 2:1997.

Variations to IEC 60038:1983, as amended, are indicated at the appropriate places throughout this Standard. Strikethrough (~~example~~) identifies IEC tables and passages of text which, for the purposes of this Australian Standard, are deleted. Where Australian tables or passages of text are added, each is set in its proper place and identified by shading (example). A summary of these variations is given in Appendix ZZ.

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).

The term 'normative' has been used in this Standard to define the application of the appendix to which it applies. A 'normative' appendix is an integral part of a Standard.

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

(a) The AS number is shown only on the cover and title page.

(b) In the source text, 'this publication' should read 'this Australian Standard'.

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

Reference to International Standard		*Australian or Australian/New Zealand Standard*	
IEC		AS	
60071	Insulation co-ordination	1824	Insulation co-ordination
60071-1	Part 1: Definitions, principles and rules	1824.1	Part 1: Definitions, principles, and rules
		AS/NZS	
60335	Safety of household and similar electrical appliances	3350	Safety of household and similar electrical appliances
60335-1	Part 1: General requirements	3350.1	Part 1: General requirements

The following Australian/New Zealand Standard is referenced in this document.

AS/NZS	
3000	Electrical installations (known as the Australian/New Zealand Wiring Rules)

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Any IEC table, figure or passage of text that is struck-through is not part of this Standard. Any Australian table, figure or passage of text that is added (and identified by shading) is part of this Standard.

Scope

This publication applies to:

— a.c. transmission, distribution and utilization systems and equipment for use in such systems with standard frequencies 50 Hz ~~and 60 Hz~~ having a nominal voltage above 100 V;

— a.c. and d.c. traction systems;

— a.c. and d.c. equipment having rated voltages below 120 V a.c. or below 750 V d.c., the a.c. voltages being intended (but not exclusively) for 50 Hz ~~and 60 Hz~~ applications; such equipment covers batteries (from primary or secondary cells), other power supply devices (a.c. or d.c.), electrical equipment (including industrial and communication), and appliances.

This publication shall not apply to voltages representing or transmitting signals or measured values.

This publication shall not apply to standard voltages of components and parts used within electrical devices or items of equipment.

SECTION ONE—DEFINITIONS

For alternating voltages, the voltages stated below are r.m.s. values.

1 Nominal system voltage

Voltage by which a system is designated.

2 Highest and lowest voltages of a system (excluding transient or abnormal conditions)

2.1 Highest voltage of a system

The highest value of voltage which occurs under normal operating conditions at any time and at any point on the system.

It excludes voltage transients, such as those due to system switching, and temporary voltage variations.