AS 62103—2006

Australian Standard®

Electronic equipment for use in power installations

This Australian Standard® was prepared by Committee EL-027, Power Electronics. It was approved on behalf of the Council of Standards Australia on 10 November 2006.
This Standard was published on 15 December 2006.

The following are represented on Committee EL-027:

- Australian Communications and Media Authority
- Australian Electrical and Electronic Manufacturers Association
- Bureau of Steel Manufacturers of Australia
- Department of Defence (Australia)
- Energy Networks Association
- Monash University

This Standard was issued in draft form for comment as DR 06587.

Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through public comment period.

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First published as AS 62103—2006.

Published by Standards Australia, GPO Box 476, Sydney, NSW 2001, Australia

ISBN 0 7337 7894 1

PREFACE

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

The objective of this Standard is to provide designers, manufacturers and purchasers with generic requirements for electronic power equipment. This Standard applies where there is no product specific Standard available.

This Standard is identical with, and has been reproduced from IEC 62103, Ed.1.0 (2003), *Electronic equipment for use in power installations*.

Informative notes have been added in Clauses 5.2.11.1 and 9.2.

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 62103' should read 'AS 62103'.

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

(d) Any French text on figures should be ignored.

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.

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INTRODUCTION

As the title indicates this International Standard applies where electronic equipment (EE) is to be installed or is used in power installations. The term electronic equipment denotes equipment which may contain information technology equipment as well as power electronic equipment and non-electronic components. Electronic equipment may be designed and used as stand-alone-equipment or as sub-assemblies built as cubicles, plug-in-units or assembled printed circuit boards. However the EMC requirements are always to be fulfilled on the apparatus or system level.

The term power installation as used in this standard denotes an installation with assembled electrical and electronic equipment in a given location and designed for coordinated operation and connected to an electricity supply system. Although the use of the installation is not specified it is expected that the main purpose will be controlling, regulating and converting electrical energy. In all cases in this standard a power installation is interacting with the electricity supply system, either directly e.g. by means of control, regulating and protection system, or indirectly e.g. by means of measurements leading to intervention by personnel. However, power installation as used in other standards may have other definitions.

This standard mainly applies where electronic equipment is integrated into or is used in power installations. As the standard is also concerned with the design and testing of electronic equipment, the appropriate clauses within it apply in cases where no other applicable specifications exist in individual product standards.

Beyond that the main intention of the standard is to stipulate minimum requirements for the design and manufacture of electronic equipment, for protection against electric shock, for testing and for the integration into systems for power installations. Right from the beginning and reflecting the experiences of the experts it seems necessary to use minimum requirements in order to achieve a certain technical level with respect to safety and reliability. This is especially true where electronic equipment is assembled into power installations.

In all cases where more severe requirements are defined in individual product standards or purchasing specifications they shall take precedence over the requirements of this standard. This may be true for special safety related applications of electronic equipment or applications under special environmental conditions.

In the other cases where a product standard does not meet the minimum requirements of this standard and therefore prevents the direct use of electronic equipment designed and manufactured fulfilling the requirements of those product standards additional means have to be considered in power installations. One possibility is to influence the environmental conditions in which the electronic equipment is operating so that they are compatible with the requirements of this standard. This can be done by special casing or means of filtering for example. The other possibility is to improve the electronic equipment so that it meets the requirements of this standard.

STANDARDS AUSTRALIA

Australian Standard

Electronic equipment for use in power installations

1 Scope

This International Standard applies to ~~the use of~~ electronic equipment (EE) in power installations where a uniform technical level ~~with respect to~~ of safety and reliability is ~~necessary~~ required. This standard also applies to EE which are not covered by a specific product standard.

This standard defines the minimum requirements for the design and manufacture of EE connected to low-voltage (not exceeding 1 000 V a.c. or 1 500 V d.c.) mains supplies, for protection against electric shock, for testing and its integration into systems for power installations.

This standard does not cover the following applications: Electrical accessories and electrical appliances for household and similar purposes, medical equipment, electric railway equipment, data processing without control on systems and processes, public and private non-industrial telecommunication and radio communication equipment and networks, protection relays, residual-current-operated protective devices, uninterruptible power supplies, lighting equipment and public charging equipment for electrical vehicles.

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.

References to international standards that are struck through in this clause are replaced by references to Australian or Australian/New Zealand Standards that are listed immediately thereafter and identified by shading. Any Australian or Australian/New Zealand Standard that is identical to the International Standard it replaces is identified as such.

~~IEC 60050-151, *International Electrotechnical Vocabulary (IEV) – Part 151: Electrical and magnetic devices*~~

AS 1852.151, *International electrotechnical vocabulary,* Part 151: *Electric and magnetic devices* (identical to IEC 60050-151)

IEC 60050-161, *International Electrotechnical Vocabulary (IEV) – Chapter 161: Electro-magnetic compatibility*

IEC 60050-195, *International Electrotechnical Vocabulary – Part 195: Earthing and protection against electric shock*

~~IEC 60050-826, *International Electrotechnical Vocabulary (IEV) – Chapter 826: Electrical installations of buildings*~~

AS 1852.826, *International electrotechnical vocabulary,* Part 826: *Electrical installations of buildings* (identical to IEC 60050-826)