AS 61818—2005

Australian Standard™

Application guide for low-voltage fuses

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PREFACE

This Standard was prepared by the Standards Australia Committee EL-007, Power Switchgear.

The objective of this Standard is to demonstrate that low-voltage current-limiting fuses are easy to apply to protect today's complex and sensitive electronic equipment.

This Standard is identical with, and has been reproduced from IEC/TR 61818 Ed. 1.0 (2003), *Application guide for low-voltage fuses*.

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 61818' should read 'AS 61818'.

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

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INTRODUCTION

The effects of overcurrent on electrical equipment can be dramatic if no appropriate protection is provided, for example:

- melting of conductors or busbars;
- vaporization of metal;
- ionization of gases;
- arcing, fire and explosion;
- insulation damage.

Apart from being hazardous to personnel, significant economic losses can result from downtime and the repairs required to restore damaged equipment.

Fuses are common overcurrent protective devices in use today

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Application guide for low-voltage fuses

1 Scope

This technical report, which serves as an application guide for low-voltage fuses, shows how current-limiting fuses are easy to apply to protect today's complex and sensitive electronic equipment. This guide specifically covers low-voltage fuses up to a.c. 1 000 V and d.c. 1 500 V according to IEC 60269. This guide provides information on the application of fuses, which are not always covered, as well as important facts, which are sometimes difficult to locate in standards.

In the interest of keeping the guide current and up to date with new developments, readers are invited to comment on this guide and their application experience to their National Committees.

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 60146-6:1992, *Semiconductor convertors – Part 6: Application guide for the protection of semiconductor convertors against overcurrent by fuses*

~~IEC 60269 (all parts), *Low-voltage fuses*~~

AS 60269 (all parts), *Low-voltage fuses*

IEC 60269-1:1998, *Low-voltage fuses – Part 1: General requirements*

IEC 60269-2:1986: *Low-voltage fuses – Part 2: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application)*

IEC 60269-2-1:1998, *Low-voltage fuses – Part 2-1: Supplementary requirements for fuses for use by authorized persons (fuses mainly for industrial application) – Sections I to V: Examples of types of standardized fuses*

IEC 60269-3-1:1994, *Low-voltage fuses – Part 3-1: Supplementary requirements for fuses for use by unskilled persons (fuses mainly for household and similar applications) – Sections I to IV*

IEC 60269-4:1986, *Low-voltage fuses – Part 4: Supplementary requirements for fuse-links for the protection of semiconductor devices*

IEC 60364-4-41:2001, *Electrical installations of buildings – Part 4-41: Protection for safety – Protection against electric shock*