

Australian Standard™

**Low-voltage switchgear and controlgear**

**Part 7.3: Ancillary equipment—Safety  
requirements for fuse terminal blocks**

This Australian Standard was prepared by Committee EL-006, Industrial Switchgear and Controlgear. It was approved on behalf of the Council of Standards Australia on 22 July 2004.  
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The following are represented on Committee EL-006:

Australasian Railway Association  
Australian Chamber of Commerce and Industry  
Australian Electrical and Electronic Manufacturers Association  
Bureau of Steel Manufacturers of Australia  
Electricity Supply Association of Australia  
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**Part 7.3: Ancillary equipment—Safety requirements for fuse terminal blocks**

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## PREFACE

This Standard was prepared by the Standards Australia Committee EL-006, Industrial Switchgear and Controlgear.

The objective of this Standard, in addition to that stated in Clause 1, is to bring Australian requirements into line with Edition 1.0 (2002-07) of IEC 60947-7-3.

This Standard is Part 7.3 of a series which, when complete, will consist of the following:

AS 60947	Low-voltage switchgear and controlgear
AS 60947.1*	Part 1: General rules
AS 60947.2*	Part 2: Circuit-breakers
AS 60947.3	Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units
AS 60947.3 Suppl	Part 3: Switches, disconnectors, switch-disconnectors and fuse-combination units, Supplement 1: Fuse-switch-disconnectors and switch-disconnectors for use with low-voltage aerial bundled cables
AS 60947.4.1*	Part 4.1: Contactors and motor-starters—Electromechanical contactors and motor-starters
AS 60947.4.2*	Part 4.2: Contactors and motor-starters—A.C. semiconductor motor controllers and starters
AS 60947.4.3	Part 4.3: Contactors and motor-starters—A.C. semiconductor controllers and contactors for non-motor loads
AS 60947.5.1*	Part 5.1: Control circuit devices and switching elements—Electromechanical control circuit devices
AS 60947.5.2*	Part 5.2: Control circuit devices and switching elements—Proximity switches
AS 60947.5.3	Part 5.3: Control circuit devices and switching elements—Requirements for proximity devices with defined behaviour under fault conditions
AS 60947.5.4*	Part 5.4: Control circuit devices and switching elements—Methods of assessing the performance of low-energy contacts—Special tests
AS 60947.5.5	Part 5.5: Control circuit devices and switching elements—Electrical emergency stop devices with mechanical latching function
AS 60947.5.6	Part 5.6: Control circuit devices and switching elements—D.C. interface for proximity sensors and switching amplifiers (NAMUR)
AS 60947.5.7*	Part 5.7: Control circuit devices and switching elements—Requirements for proximity devices with analogue output
AS 60947.6.1	Part 6.1: Multiple function equipment—Automatic transfer switching equipment
AS 60947.6.2*	Part 6.2: Multiple function equipment—Control and protective switching devices (or equipment) (CPS)
AS 60947.7.1*	Part 7.1: Ancillary equipment—Terminal blocks for copper conductors
AS 60947.7.2*	Part 7.2: Ancillary equipment—Protective conductor terminal blocks for copper conductors

AS 60947.7.3*	Part 7.3:	Ancillary equipment—Safety requirements for terminal blocks for the reception of cartridge fuse-links (this Standard)
AS 60947.8*	Part 8:	Control units for built-in thermal protection for rotating machines

It is the intention of the Committee to align the numbering of this series of Standards with that of the corresponding IEC 60947 series of Standards.

Standards from the list above that are marked with an asterisk (\*) are, at the time of publication of this document, available as a part of the AS 60947 series of Standards.

Standards that are not so marked remain as AS/(NZS) 3947 series Standards. Following the next amendment or revision of the corresponding IEC Standard, each of these Standards remaining in the AS/(NZS) 3947 series will be revised and renumbered as a part of the AS 60947 series.

This Standard is identical with and has been reproduced from Edition 1.0 (2002-07) of IEC 60947-7-3:2002, *Low-voltage switchgear and controlgear—Part 7-3: Ancillary equipment—Safety requirements for fuse terminal blocks* including Corrigendum 1:2003.

The provisions of the general rules dealt with in AS 60947.1 (hereinafter referred to as Part 1) are applicable to this standard, where specifically called for. Clauses and subclauses, tables, figures and appendices of the general rules thus applicable are identified by reference to Part 1, for example, 1.2.3 of Part 1, table 4 of Part 1, or annex A of Part 1.

This Standard for fuse terminal blocks covers not only the terminal block requirements but also takes into account the specifications of the cartridge fuse-links according to IEC 60127-1 and IEC 60127-2. A connection between these two standards is made by adding (adapting) the fundamental specifications of cartridge fuse-links (rated current, rated voltage, maximum voltage drop and maximum sustained power dissipation for cartridge fuse-links with the dimension of 5 mm × 20 mm or 6,3 mm × 32 mm with their different response characteristics) to the AS 60947.7.1 (referred to herein as Part 7.1) requirements for terminal blocks. By this means, it is possible to judge the quality of the product ‘fuse terminal blocks’.

An important fact when using such cartridge fuse-links with fuse terminal blocks is that fuses heat up much less under rated load than they would do under overload conditions. The rated load is the result of rated current and maximum voltage drop. But there is a considerably increased power dissipation under overload conditions, equalling the maximum sustained power dissipation loss according to IEC 60127-2.

In industrial applications, single fuse terminal blocks are used within an arrangement of terminal blocks or many of them forming an arrangement on their own. This means that the same current and fuse-link will result in different heat emissions. Furthermore, it should be taken into account that apart from the general full range fuse (for overload and short-circuit protection), some fuse terminal blocks are exclusively used for short-circuit protection according to AS/NZS 3000, e.g. in control circuits, where no overloads occur (i.e. safety coils, indicator lights or similar equipment).

Consequently there are four different types of application that need to be described in the catalogue or indicated on the terminal block. For more information, see annex B.

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The terms ‘normative’ and ‘informative’ have been used in this Standard 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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