

Australian/New Zealand Standard™

Low-voltage switchgear and controlgear

**Part 7.4: Ancillary equipment—PCB
terminal blocks for copper conductors**



AS/NZS IEC 60947.7.4:2015

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-006, Industrial Switchgear and Controlgear. It was approved on behalf of the Council of Standards Australia on 28 May 2015 and on behalf of the Council of Standards New Zealand on 29 May 2015. This Standard was published on 29 June 2015.

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PREFACE

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

The objective of this Standard is to specify requirements for PCB terminal blocks primarily intended for industrial or similar use.

Mounting and fixing on the printed circuit board is made by soldering, press-in or equivalent method to provide electrical and mechanical connection between copper conductors and the printed circuit board.

This standard applies to PCB terminal blocks intended to connect copper conductors, with or without special preparation, having a cross-section between 0.05 mm² and 300 mm² (AWG 30/60 kcmil), intended to be used in circuits of a rated voltage not exceeding 1,000 V a.c. up to 1,000 Hz or 1,500 V d.c.

This Standard is identical with, and has been reproduced from, IEC 60947-7-4 Ed. 1.0 (2013), *Low-voltage switchgear and controlgear, Part 7.4: Ancillary equipment—PCB terminal blocks for copper conductors*.

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

- (a) In the source text ‘this part of IEC 60947’ should read ‘this Australian/New Zealand Standard’.
- (b) A full point substitutes for a comma when referring to a decimal marker.

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

<i>Reference to International Standard</i>		<i>Australian/New Zealand Standard</i>	
IEC		AS/NZS	
60695	Fire hazard testing	60695	Fire hazard testing
60695-2-11	Part 2-11: Glowing/hot-wire based test methods—Glow-wire flammability test method for end-products	60695.2.11	Part 2.11: Glowing/hot-wire based test methods—Glow-wire flammability test method for end-products
60695-2-12	Part 2-12: Glowing/hot-wire based test methods—Glow-wire flammability index (GWFI) test method for materials	60695.2.12	Part 2.12: Glowing/hot-wire based test methods—Glow-wire flammability index (GWFI) test method for materials

Only normative references that have been adopted as Australian or Australian/New Zealand Standards have been listed.

The term ‘informative’ has been used in this Standard to define the application of the annexes to which it applies. An ‘informative’ annex is only for information and guidance.

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INTRODUCTION

This standard IEC 60947-7-4 for PCB terminal blocks covers not only the terminal block requirements according to IEC 60947-7 series but also takes into account the specifications of connectors according to IEC 61984 as the requirements for both components are highly similar due to equivalent applications.

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AUSTRALIAN/NEW ZEALAND STANDARD

Low-voltage switchgear and controlgear**Part 7.4:****Ancillary equipment—PCB terminal blocks for copper conductors****1 General****1.1 Scope**

This part of IEC 60947 specifies requirements for PCB terminal blocks primarily intended for industrial or similar use.

Mounting and fixing on the printed circuit board is made by soldering, press-in or equivalent methods to provide electrical and mechanical connection between copper conductors and the printed circuit board.

This standard applies to PCB terminal blocks intended to connect copper conductors, with or without special preparation, having a cross-section between $0,05 \text{ mm}^2$ and 300 mm^2 (AWG 30/600 kcmil), intended to be used in circuits of a rated voltage not exceeding 1 000 V a.c. up to 1 000 Hz or 1 500 V d.c.

NOTE 1 Large cross section terminal blocks are dedicated to specific design of high current PCBs. The range up to 300 mm^2 is kept to cover any possible application. Examples of high current PCBs and PCB terminal blocks are shown in Annex C.

NOTE 2 AWG is the abbreviation of "American Wire Gage" (Gage (US) = Gauge (UK));

kcmil = 1 000 cmil;

1 cmil = 1 circular mil = surface of a circle having a diameter of 1 mil;

1 mil = 1/1 000 inch.

This standard may be used as a guide for special types of PCB terminal blocks with components, such as disconnect units, integrated cartridge fuse-links and the like.

If applicable, in this standard the term "clamping unit" is used instead of "terminal". This is taken into account in case of references to IEC 60947-1.

1.2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendment) applies.

IEC 60068-2-20, *Environmental testing – Part 2-20: Tests – Test T: Test methods for solderability and resistance to soldering heat of devices with leads*

IEC 60352-1, *Solderless connections – Part 1: Wrapped connections – General requirements, test methods and practical guidance*

IEC 60352-2, *Solderless connections – Part 2: Crimped connections – General requirements, test methods and practical guidance*

IEC 60352-3, *Solderless connections – Part 3: Solderless accessible insulation displacement connections – General requirements, test methods and practical guidance*