

AS 60947.5.1—2004  
IEC 60947-5-1:2003

AS 60947.5.1—2004

Australian Standard™

**Low-voltage switchgear and controlgear**

**Part 5.1: Control circuit devices and  
switching elements—Electromechanical  
control circuit devices**

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.

This Standard was published on 23 September 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  
Engineers Australia  
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## **Low-voltage switchgear and controlgear**

### **Part 5.1: Control circuit devices and switching elements—Electromechanical control circuit devices**

Originated as part of AS 1431.1—1974, AS 1431.2—1977 and  
AS 1431.7—1989.

Previous edition AS/NZS 3947.5.1:2000

Revised and redesignated as AS 60947.5.1—2004.

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Published by Standards Australia International Ltd GPO Box 5420, Sydney, NSW 2001, Australia

ISBN 0 7337 6260 3

## 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 3.0 (2003-11) of IEC 60947-5-1.

This Standard is Part 5.1 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 (this standard)
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
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 3.0 (2003-11) of IEC 60947-5-1:2003, *Low-voltage switchgear and controlgear - Part 5-1: Control circuit devices and switching elements – Electromechanical control circuit devices*.

This Standard differs from AS/NZS 3947.5.1:2000 in the following areas:

- (a) Normative references have been updated and several editorial corrections made.
- (b) The performance and test requirements in AS 60947.1 for dielectric properties (except for Class II control circuit devices insulated by encapsulation, which are separately covered in Annex F) now apply to all control circuit devices, not only those for which the manufacturer has declared a value of the rated impulse voltage ( $U_{imp}$ ). Application of the test voltage remains as in AS/NZS 3947.5.1:2000 but the test voltage duration is now 5 seconds and not 1 minute as previously.
- (c) EMC requirements and tests have been updated.
- (d) Requirements and tests for indicating towers are now included in Annex J.

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- (i) Its number does not appear on each page of text and its identity is shown only on the cover and title page.
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- (iii) A full point should be substituted for a comma when referring to a decimal marker.

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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