

Australian Standard™

## **Low-voltage switchgear and controlgear**

### **Part 6.2: Multiple function equipment— Control and protective switching devices (or equipment) (CPS)**

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:

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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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AS 60947.6.2—2004

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## **Low-voltage switchgear and controlgear**

### **Part 6.2: Multiple function equipment— Control and protective switching devices (or equipment) (CPS)**

Originated as AS 3947.6.2—1996.  
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## PREFACE

This Standard was prepared by the Standards Australia Committee EL-006, Industrial Switchgear and Controlgear to supersede AS/NZS 3947.6.2:2001.

The objective of this Standard, in addition to that stated in Clause 1, is to bring Australian requirements into line with Edition 2.0 (2002-10) of IEC 60947-6-2.

This Standard is Part 6.2 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<br>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) (this Standard)                                                                               |
| 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 2.0 (2002-10) of IEC 60947-6-2:2002, *Low-voltage switchgear and controlgear – Part 6-2: Multiple function equipment—Control and protective switching devices (or equipment) (CPS)*.

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. Where reference is made to other parts of the AS 60947 (AS/NZS 3947) series, they too are referred to as the relevant part, after the initial reference. AS/NZS 3947.6.1 is, therefore, referred to as Part 6.1.

This Standard differs from AS/NZS 3947.6.2:2001 in the following areas:

- (a) The numbering of tables has been brought into line with AS 60947.1.
- (b) Heat resistance requirements clarified for materials.
- (c) Additional safety requirements for CPS suitable for isolation have been clarified.
- (d) EMC immunity requirements have been expanded.
- (e) Tests of dielectric properties have been clarified.
- (f) EMC test requirements have been revised.
- (g) Test sequence 1 has been expanded.
- (h) Dielectric withstand requirements have been revised.
- (i) Figures 2 to 25 replace the former figures 2 to 8.
- (j) The condition and operation of the CPS following the electrical durability test of Annex A have been clarified.
- (k) Annex B has been deleted.

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

- (i) Its number does not appear on each page of text and its identity is shown only on the cover and title page.
- (ii) In the source text ‘this standard’ should read ‘this Australian Standard’.
- (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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