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Australian Standard™

Low-voltage switchgear and controlgear

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

STANDARDS AUSTRALIA

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
Engineers Australia
National Electrical and Communications Association
National Electrical Switchboard Manufacturers Association
Testing Interests (Australia)

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

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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 Supp1	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—Electro-mechanical 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 sub-clauses, 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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1 Scope and object

This part of ~~IEC 60947~~ AS/NZS 60947 applies to control and protective switching devices (or equipment) (CPS), the main contacts of which are intended to be connected to circuits of rated voltage not exceeding 1 000 V a.c. or 1 500 V d.c.

CPSs are intended to provide both protective and control functions for circuits and are operated otherwise than by hand. They may also fulfill additional functions, such as isolation.

The object of this part is to state:

– the characteristics of CPS's;
– the conditions with which CPS's shall comply with reference to their operation and behaviour, their dielectric properties, the degree of protection provided by their enclosure where applicable;
– the tests intended to verify that these conditions have been met, and the methods to be adopted for these tests;
– the information to be marked on or given with the CPS's.

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 60034-1:1996, *Rotating electrical machines – Part 1: Rating and performance*~~

AS 1359.101, *Rotating electrical machines—General requirements—Rating and performance* (identical to IEC 60034-1:1996)

IEC 60085:1984, *Thermal evaluation and classification of electrical insulation*

IEC 60410:1973, *Sampling plans and procedures for inspection by attributes*

~~IEC 60695-2-10:2000, *Fire hazard testing – Part 2-10: Glowing/hot-wire based test methods – Glow-wire apparatus and common test procedure*~~

AS/NZS 60695.2.10; *Fire hazard testing,* Part 2.10: *Glowing/hot wire based test methods—Glow-wire apparatus and common test procedure*

