

Australian Standard™

Low-voltage switchgear and controlgear

**Part 5.7: Control circuit devices and
switching elements—Requirements for
proximity devices with analogue output**

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 26 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
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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 (2003) of IEC 60947-5-7.

This Standard is Part 5.7 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 (this Standard)
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 IEC 60947-5-7 Ed.1:2003, *Low-voltage switchgear and controlgear—Part 5-7: Control circuit devices and switching elements—Requirements for proximity devices with analogue output*.

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

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

Australian Standard**Low-voltage switchgear and controlgear**
Part 5.7: Control circuit devices and switching elements—Requirements
for proximity devices with analogue output

1 General

This part of ~~IEC 60947~~ **AS 60947** modifies the relevant requirements of ~~IEC 60947.5.2~~ **AS 60947.5.2** (hereinafter referred to as Part 5.2), dealing with the requirements for proximity switches with semiconductor switching elements, to make them applicable to proximity devices with analogue output.

1.1 Scope and object

This part of ~~IEC 60947~~ **AS 60947** states the requirements for proximity devices with analogue output. They may consist of one or more parts.

The requirements of Part 5.2 (proximity switches) apply with the additions or modifications as stated in this standard. The clause numbering in this standard follows the clause numbering of Part 5.2, modified where necessary.

1.2 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.

~~IEC 60947 5 2:1997, Low voltage switchgear and controlgear—Part 5.2: Control circuit devices and switching elements—Proximity switches—~~
~~Amendment 1 (1999)~~

AS 60947.5.2, Low-voltage switchgear and controlgear, Part 5.2: Control circuit devices and switching elements—Proximity switches

2 Definitions**2.1 Basic definitions****2.1.2****proximity device with analogue output**

device producing an output signal which varies continuously depending on the distance between the sensing face of the proximity device and its target object

2.1.3**lower distance**

minimum stated distance above which the output signal varies continuously

2.1.4**upper distance**

maximum stated distance below which the output signal varies continuously