AS/NZS 3947.5.5:2000
IEC 60947-5-5:1997

Australian/New Zealand Standard™

Low-voltage switchgear and controlgear

Part 5.5: Control circuit devices and switching elements–Electrical emergency stop device with mechanical latching function

Standards Australia

STANDARDS NEW ZEALAND
Paerewa Aotearoa

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The following interests are represented on Committee EL/6:

Australasian Railway Association
Australian Chamber of Commerce and Industry
Australian Electrical and Electronic Manufacturers Association
Bureau of Steel Manufacturers of Australia
Electrical Contractors Association of New Zealand
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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL/6, Industrial Switchgear and Controlgear.

The objective of this Standard is to provide detailed specifications relating to the electrical and mechanical construction of emergency stop devices with mechanical latching and to their testing.

This Standard is Part 5.5 of a series which, when complete, will consist of:

AS(/NZS) 3947	Low-voltage switchgear and controlgear	
AS/NZS 3947.1	Part 1:	General rules
AS 3947.2	Part 2:	Circuit-breakers
AS/NZS 3947.3	Part 3:	Switches, disconnectors, switch-disconnectors and fuse-combination units
AS/NZS 3947.3 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 3947.4.1	Part 4.1:	Contactors and motor-starters–Electromechanical contactors and motor-starters
AS 3947.4.2	Part 4.2:	Contactors and motor-starters–A.C. semiconductor motor controllers and starters
AS/NZS 3947.4.3	Part 4.3:	Contactors and motor-starters–A.C. semiconductor controllers and contactors for non-motor loads
AS/NZS 3947.5.1	Part 5.1	Control circuit devices and switching elements–Electromechanical control circuit devices
AS/NZS 3947.5.2	Part 5.2:	Control circuit devices and switching elements–Proximity switches
AS/NZS 3947.5.3	Part 5.3	Control circuit devices and switching elements–Requirements for proximity devices with defined behaviour under fault conditions
AS/NZS 3947.5.4	Part 5.4:	Control circuit devices and switching elements–Methods of assessing the performance of low-energy contacts–Special tests
AS/NZS 3947.5.5	Part 5.5	Control circuit devices and switching elements–Electrical emergency stop devices with mechanical latching function
AS/NZS 3947.5.6	Part 5.6	Control circuit devices and switching elements–D.C. interface for proximity sensors and switching amplifiers (NAMUR)
AS 3947.6.1	Part 6.1:	Multiple function equipment–Automatic transfer switching equipment
AS 3947.6.2	Part 6.2:	Multiple function equipment–Control and protective switching devices (or equipment) (CPS)

AS 3947.7.1	Part 7.1:	Ancillary equipment–Terminal blocks for copper conductors
AS 3947.7.2	Part 7.2:	Ancillary equipment–Protective conductor terminal blocks for copper conductors
AS/NZS 3947.7.3	Part 7.3:	Ancillary equipment–Safety requirements for terminal blocks for the reception of cartridge fuse-links

This Standard is identical with and has been reproduced from IEC 60947-5-5:1997, *Low-voltage switchgear and controlgear–Part* 5-5: *Control circuit devices and switching elements–Electrical emergency stop device with mechanical latching function.*

This Standard deals specifically with electrical emergency stop devices with mechanical latching function and gives minimum additional electrical and mechanical requirements to those given in the following International and Australian Standards:

– ISO 13850 specifying requirements for the emergency stop function of a machine, whatever be the energy used;

– IEC 60204-1 specifying additional requirements for an emergency stop function realized by the electrical equipment of a machine;

– AS 3947.5.1 specifying electrical characteristics of electromechanical control circuit devices.

For further requirements in instances where trip-wires are used as emergency stop devices on industrial machinery or conveyors, refer to AS 4024.1–1996 *Safeguarding of machinery* Part 1: *General principles* and AS 1755–1996 *Conveyors–Design, construction, installation and operation–Safety requirements* respectively.

A reference to an International Standard identified in the Normative References Clause by strikethrough (~~example~~) is replaced by a reference to the Australian or Australian/New Zealand Standard(s) listed immediately thereafter and identified by shading (example). Where the struck-through referenced document and the referenced Australian or Australian/New Zealand Standard are identical, this is indicated in parenthesis after the title of the latter.

In January 1997, the IEC commenced numbering its Standards from 60000 by adding 60000 to the number of each existing Standard. This coordinates IEC numbering with ISO numbering. During the transition period an IEC Standard might be identified by its new number or its old number (for example IEC 60050 or IEC 50).

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/New Zealand Standard’.

(c) A full point should be substituted for a comma when referring to a decimal marker.

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

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Any IEC table, figure or passage of text that is struck-through is not part of this Standard. Any Australian/New Zealand table, figure or passage of text that is added (and identified by shading) is part of this Standard.

1 Scope

This section of IEC 60947-5 provides detailed specifications relating to the electrical and mechanical construction of emergency stop devices with mechanical latching function and to their testing.

This standard is applicable to electrical control circuit devices and switching elements which are used to provide an emergency stop signal. Such devices may be either provided with their own enclosure, or installed according to the manufacturer's instructions.

This standard does not apply to:

– emergency stop devices for non-electrical control circuit, for example hydraulic, pneumatic;

– emergency stop devices without mechanical latching function.

An emergency stop device may also be used to provide an emergency switching off function (see annex A).

2 Normative references

The following normative documents contain provisions, which through reference in this text, constitute provisions of this section of IEC 60947-5. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this section of IEC 60947-5 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

References to International Standards that are struck through in this Clause are replaced by references to equivalent 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 appropriately identified.

~~IEC 60050(441):1984, *International Electrotechnical Vocabulary (IEV) — Chapter 441: Switchgear, controlgear, fuses*~~