

Australian/New Zealand Standard™

Low-voltage switchgear and controlgear assemblies

**Part 1: General rules
(IEC 61439-1, Ed. 2.0 (2011), MOD)**



AS/NZS 61439.1:2016

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EL-006, Industrial Switchgear and Controlgear. It was approved on behalf of the Council of Standards Australia on 16 March 2016 and by the New Zealand Standards Approval Board on 4 May 2016. This Standard was published on 24 May 2016.

The following are represented on Committee EL-006:

Association of Accredited Certification Bodies
Australian Industry Group
Bureau of Steel Manufacturers of Australia
Business New Zealand
Electrical Contractors Association of New Zealand
Engineers Australia
National Electrical and Communications Association
National Electrical Switchboard Manufacturers Association
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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of Standards Australia or the New Zealand Standards Executive at the address shown on the back cover.

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Originated in Australia as AS 1136—1974.
Previous and first joint edition AS/NZS 3439.1:2002.
Jointly revised and redesignated as AS/NZS 61439.1:2016.

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-006, Industrial Switchgear and Controlgear, to supersede AS/NZS 3439.1:2012 five years from the date of publication.

The AS/NZS 61439 series will supersede the AS/NZS 3439 series five years from the date of publication. During this period, low-voltage switchgear and controlgear assemblies may comply with either series. After five years it is anticipated that the AS/NZS 3439 series will be withdrawn.

The objective of this Standard is to harmonize as far as practicable all rules and requirements of a general nature applicable to low-voltage switchgear and controlgear assemblies (ASSEMBLIES), in order to obtain uniformity of requirements and verification for ASSEMBLIES, and avoid the need for verification to other Standards.

This Standard is an adoption with national modifications. It has been reproduced from IEC 61439-1, Ed. 2.0 (2011), *Low-voltage switchgear and controlgear assemblies, Part 1: General rules* and has been varied as indicated to take account of Australian/New Zealand conditions.

Where tests on the ASSEMBLY have been conducted in accordance with the IEC 60439, IEC 61439 or AS/NZS 3439 series and the test results fulfil the requirements of the relevant part of AS/NZS 61439, the verification of these requirements need not be repeated (see Clause 10.1).

Variations made to IEC 61439-1:2011 form the Australian/New Zealand variations for the purposes of the CB scheme for recognition of testing to standards for safety of electrical equipment. These variations are listed in Appendix ZA for easy reference.

NOTE: This Appendix has been designated ZA instead of the usual ZZ so that other Appendices have the same designations as those in AS/NZS 3439.1:2002.

This Standard is structured as follows:

- (a) Preface.
- (b) IEC 61439-1, Ed. 2.0 (2011) (unedited from the contents page to the final clause of the source document).
- (c) Appendix ZA—Australian/New Zealand variations to the source document.
- (d) Appendices ZB to ZE contain additional requirements and information referred to from Appendix ZA.

This second edition includes the following significant technical changes with respect to the last edition of IEC 61439-1:

- (i) Revision of service conditions in Clause 7.
- (ii) Numerous changes regarding verification methods in Clause 10.
- (iii) Modification of routine verification in respect of clearances and creepage distances (see Clause 11.3).
- (iv) Adaption of the tables in Annex C and Annex D to the revised requirements and Verification methods.
- (v) Revision of the EMC requirements in Annex J.
- (vi) Shifting of tables from Annex H to new Annex N.
- (vii) New Annex O with guidance on temperature rise verification.
- (viii) New Annex P with a verification method for short-circuit withstand strength (integration of the content of IEC/TR 61117).
- (ix) Update of normative references.
- (x) General editorial review.

NOTE: It should be noted that when a dated reference to IEC 60439-1 is made in another Part of the IEC 60439 series of assembly standards not yet transferred into the new IEC 61439 series, the superseded IEC 60439-1 still applies (see also the Introduction below).

In this Standard, terms written in small capitals are defined in Clause 3.

The ‘in some countries’ notes regarding differing national practices are contained in the following subclauses:

- (A) 5.4.
- (B) 8.2.2.
- (C) 8.3.2.
- (D) 8.3.3.
- (E) 8.4.2.3.
- (F) 8.5.5.
- (G) 8.6.6.
- (H) 8.8.
- (I) 9.2.
- (J) 10.11.5.4.
- (K) 10.11.5.6.1.
- (L) Annex L.
- (M) Annex M.

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

- (1) In the source text ‘this part of IEC 61439’ should read ‘this Australian/New Zealand Standard’.
- (2) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

<i>Reference to International Standard</i>		<i>Australian/New Zealand Standard</i>	
IEC		AS	
60529	Degrees of protection provided by enclosures (IP Code)	60529	Degrees of protection provided by enclosures (IP Code)
60865	Short-circuit currents—Calculation of effects	3865	Calculation of the effects of short-circuit currents
60865-1	Part 1: Definitions and calculation methods		
61180	High-voltage test techniques for low-voltage equipment	4362	High-voltage test techniques for low-voltage equipment
(all parts)		4362.1	Part 1: Definitions, test and procedure requirements
		4362.2	Part 2: Test equipment
		AS/NZS	
60364	Low-voltage electrical installations	3000	Electrical installations (known as the Australian/New Zealand Wiring Rules)
(all parts)			
60439	Low-voltage switchgear and controlgear assemblies (series)	3439	Low-voltage switchgear and controlgear assemblies (series)

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