

Australian Standard™

**High-voltage switchgear and
controlgear**

**Part 200: A.C. metal enclosed
switchgear and controlgear for rated
voltages above 1 kV and up to and
including 52 kV
(IEC 62271-200, Ed. 1 (2003) MOD)**

STANDARDS
Australia



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PREFACE

This Standard was prepared by the Standards Australia Committee EL-007, Power Switchgear, to supersede AS 2086—1995.

The objective of this Standard is to provide requirements for metal-enclosed switchgear and controlgear for alternating current of rated voltages above 1 kV and up to and including 52 kV for indoor and outdoor installations.

This Standard is an adoption with national modifications and has been reproduced from IEC 62271-200, Ed. 1 (2003), *High-voltage switchgear and controlgear – Part 200: A.C. metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV*, and has been varied as indicated to take account of Australian/New Zealand conditions.

Variations to IEC 62271-200, Ed. 1 (2003) are indicated at the appropriate places throughout this standard. Strikethrough (~~example~~) identifies IEC text, tables and figures which, for the purposes of this Australian Standard, are deleted. Where text, tables or figures are added, each is set in its proper place and identified by shading (**example**). Added figures are not themselves shaded, but are identified by a shaded border.

Common numbering of standards falling under the responsibility of EL-007

In accordance with the decision taken by the committee EL-007 a common numbering system will be established in order to align the numbering of Australian Standards falling under the responsibility of EL-007, with IEC standards. All high-voltage switchgear and controlgear Standards will, at their next revision (or as equivalent Standards become available in IEC), become parts of the AS 62271 (High-voltage switchgear and controlgear) series. The table below gives the relationship between future numbering and existing Standard numbers. Standards current at the time of publication of this Standard are marked with an asterisk (*).

AS 62271 Series	High-voltage switchgear and controlgear	Old AS Number
1	Common specifications	*AS 2650
100*	High-voltage alternating current circuit-breakers	AS 2006
102*	Alternating current disconnectors and earthing switches	AS 1306
103	Switches for rated voltages above 1 kV and less than 52 kV	*AS/NZS 60265.1
104	Switches for rated voltages of 52 kV and above	*AS 60265.2
106	Alternating current contactors and contactor based motor-starters	*AS 2024
110	Inductive load switching	*AS 4372
200*	A.C. metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV	AS 2086
201	A.C. insulation-enclosed switchgear and controlgear for rated voltages above 1 kV up to and including 38 kV	*AS 2264
202	High-voltage/low voltage prefabricated substations	*AS 61330
203*	Gas-insulated metal enclosed switchgear for rated voltages above 52 kV	AS 2263
301*	Dimensional standardization of terminals	AS 2395

AS 62271 Series	High-voltage switchgear and controlgear	Old AS Number
303	Use and handling of sulphur hexafluoride (SF ₆) in high-voltage switchgear and controlgear	*AS 2791
304	Additional requirements for enclosed switchgear and controlgear from 1 kV to 72,5 kV to be used in severe climatic conditions	*AS 4243

This Standard differs from the Standard it supersedes in the following major areas:

- (a) The Standard has been basically changed to be updated to today's use of high voltage switchgear and controlgear up to 52 kV.
- (b) Adopting the content to AS 2650 'Common Clauses'.
- (c) New definitions are added; classification of equipment and introduction of internal arc (IAC) and it's testing.
- (d) Appendices are now called Annexes in keeping with the latest style.
- (e) Annex ZA 'Items subject to agreement between the manufacturer and user' has been updated.
- (f) References have been updated.

This Standard shall be read in conjunction with AS 2650, which is applicable unless otherwise specified in this Standard. In order to simplify the indication of corresponding requirements, the same numbering of clauses and subclauses is used as in AS 2650. Amendments to these clauses and subclauses are given under the same references, whilst additional subclauses are numbered from 101.

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 international standard' should read 'this Australian Standard'.
- (iii) A full point should be substituted for a comma when referring to a decimal marker.
- (iv) Any French text on figures should be ignored.

The terms 'normative' and 'informative' are used 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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Any table, figure or text of the international standard that is struck through is not part of this standard. Any Australian table, figure or text that is added is part of this standard and is identified by shading.

1 General**1.1 Scope**

This part of IEC 62271 specifies requirements for factory-assembled metal-enclosed switchgear and controlgear for alternating current of rated voltages above 1 kV and up to and including 52 kV for indoor and outdoor installation, and for service frequencies up to and including 60 Hz. Enclosures may include fixed and removable components and may be filled with fluid (liquid or gas) to provide insulation.

NOTE 1 Although primarily dedicated to three-phase systems, this standard can also be applied to single-phase or two-phase systems.

This standard defines several types of metal enclosed switchgear and controlgear which differ due to

- the consequences on network service continuity in case of maintenance on the switchgear and controlgear;
- the need and convenience of maintenance of the equipment.

NOTE 2 Safety of an installation results from the design, implementation and coordination of products, installations and operations.

For metal-enclosed switchgear and controlgear containing gas-filled compartments, the design pressure is limited to a maximum of 300 kPa (relative pressure).

NOTE 3 Gas-filled compartments having a design pressure exceeding 300 kPa (relative pressure) should be designed and tested in accordance with IEC 60547/IEC 62271-203.

Metal-enclosed switchgear and controlgear for special use, for example, in flammable atmospheres, in mines or on board ships, may be subject to additional requirements.

Components contained in metal-enclosed switchgear and controlgear are to be designed and tested in accordance with their various relevant standards. This standard supplements the standards for the individual components regarding their installation in switchgear and controlgear assemblies.

This standard does not preclude that other equipment may be included in the same enclosure. In such a case, any possible influence of that equipment on the switchgear and controlgear is to be taken into account.

NOTE 4 Switchgear and controlgear assemblies having an insulation enclosure are covered by IEC 60466.

NOTE 5 Metal-enclosed switchgear and controlgear for rated voltages above 52 kV insulated by ambient air may be covered by this standard taking into account the insulation levels of IEC 60694.

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.