AS 62271.301—2005

Australian Standard™

High voltage switchgear and controlgear

Part 301: Dimensional standardization of terminals

This Australian Standard was prepared by Committee EL-007, Power Switchgear. It was approved on behalf of the Council of Standards Australia on 20 July 2005.
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The following are represented on Committee EL-007:

Australian British Chamber of Commerce
Australian Electrical and Electronic Manufacturers Association
Energy Networks Association
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Testing interests (Australia)

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Part 301: Dimensional standardization of terminals

Originated as AS 2395—1980.
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PREFACE

This Standard was prepared by the Standards Australia Committee EL-007, Power Switchgear to supersede AS 2395—1980, *Terminals for switchgear assemblies for alternating voltages above 1 kV*.

The Standard covers the requirements for terminals for indoor and outdoor switchgear assemblies and ancillary equipment such as are employed in connection with the generation, transmission, distribution and utilization of electric power.

In the preparation of the Standard consideration was given to IEC 62271-301, *High-voltage switchgear and controlgear – Part 301: Dimensional standardisation of terminals*, and an ENA document on the standardization of equipment palm terminals, and acknowledgement is made of the assistance received therefrom.

IEC 62271-301 gives dimensions of terminals of cylindrical shape and the IEC sizes have been adopted herein. For terminals of rectangular shape, IEC 62271-301 gives only the diameters of and distances between holes. These dimensions have been retained herein, except for terminal numbers 12 to 14 where the 60 mm spacing does not accommodate the conductor terminal; in this case a spacing of 70 mm has been used.

Additionally two informative appendices have been added. Appendix A provides the basis for the design of terminals and justification for having hole diameter of 18 mm for terminal numbers 7 to 14. Appendix B provides recommendations for the design and preparation of joints.

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 and AS 4298
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*	AC metal-enclosed switchgear and controlgear for rated voltages above 1 kV and up to and including 52 kV	AS 2086
201	AC 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

AS 62271 Series	High-voltage switchgear and controlgear	Old AS Number
203*	Gas-insulated metal enclosed switchgear for rated voltages above 52 kV	AS 2263
301*	Dimensional standardization of terminals	AS 2395
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
308*	Guide for asymmetrical short-circuit breaking test duty T100a	—

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Part 301: Dimensional standardization of terminals

1 SCOPE

This Standard specifies dimensions and configuration for terminals intended for use on indoor and outdoor switchgear assemblies such as are employed in connection with the generation, transmission and distribution of electric power. It also applies to the ancillary equipment used in conjunction with the switchgear.

2 APPLICATION

This Standard applies to terminals on electrical equipment and on ancillary connections such as busbars. It does not apply to terminals internal to switchgear, switchboards and similar, where the connection may be an integral part of the design.

This Standard does not require all connections on to terminals to be made with fasteners. Other methods may be more appropriate and reference should be made to AS 2067, Appendix C, for a description of these.

NOTE: The intention of the standard is to establish a set of dimensions of terminations for equipment for ease of assembly and interchangeability. In this context, it is appreciated that equipment to which the terminals are applicable will have a current rating in accordance with the particular standard to which it is tested. Service experience has indicated that despite the various metals and their alloys used in equipment terminals, it is practicable to assign nominal current ratings to terminals of various sizes and coordinate a terminal to an item of equipment having the same current rating.

3 REFERENCED DOCUMENTS

This Standard may require reference to the following documents:

AS	
1100	Technical drawing
1100.201	Part 201: Mechanical engineering drawing
1110	ISO metric hexagon bolts and screws—Product grades A and B
1110.1	Part 1: Bolts
1111	ISO metric hexagon bolts and screws—Product grade C
1111.1	Part 1: Bolts
1237	Plain washers for metric bolts, screws and nuts for general purposes
1237.1	Part 1: General plan
1444	Wrought alloy steels—Standard, hardenability (H) series and hardened and tempered to designated mechanical properties
2067	Switchgear assemblies and ancillary equipment for alternating voltages above 1 kV
2338	Preferred dimensions of wrought metal products
2752	Preferred numbers and their use