

Australian Standard[®]

**High-voltage A.C. switchgear and
controlgear—Switches and
switch-disconnectors**

**Part 1—For rated voltages above
1 kV and less than 52 kV**

This Australian standard was prepared by Committee EL/7, Power Switchgear. It was approved on behalf of the Council of the Standards Association of Australia on 5 July 1984 and published on 5 October 1984.

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Australian-British Trade Association
Australian Electrical and Electronic Manufacturers Association
Confederation of Australian Industry
Electricity Supply Association of Australia
Institution of Engineers, Australia
Railways of Australia Committee
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**High-voltage A.C. switchgear and
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**Part 1—For rated voltages above
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PREFACE

This standard was prepared by the Association's Committee on Power Switchgear to supersede the requirements of AS 1025—1979 for voltages above 1 kV and up to but not including 52 kV.

This standard is Part 1 of a proposed two-part standard; the future Part 2 is envisaged as being based on work currently in hand at IEC to cover switches of 52 kV and above.

This standard is based on IEC documents 17A(Central Office)146, 147 and 158 which have been prepared for the revision of IEC 265.

The clause numbering of this standard closely follows that of AS 2650 and also, where possible, to that of the above IEC documents. As much as possible this will enable direct cross-reference to be made to the clauses of the next edition of IEC 265.

This standard is intended to be read in conjunction with AS 2650 as in general, the clauses herein refer to, or as indicated, make exception to or add to the corresponding clauses of AS 2650. Clauses having numbers with a component part of 101 or greater are specific to this standard only. Clauses referring directly to clauses of the same number in AS 2650 without amendment thereto are shown in bold in the Contents.

Where this standard deviates technically from the above IEC documents by way of additional or different requirements, this fact is indicated by underlining or a rule in the margin against the clause, table or part thereof, affected and a summary of such deviations is given in the Annex.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

for

HIGH VOLTAGE A.C. SWITCHGEAR AND CONTROLGEAR—SWITCHES AND SWITCH-DISCONNECTORS

PART 1—FOR RATED VOLTAGES ABOVE 1 kV AND LESS THAN 52 kV

1. SCOPE AND GENERAL

1.1 SCOPE. This standard specifies requirements for a.c. switches and switch-disconnectors designed for indoor and outdoor installation for rated voltages above 1 kV and less than 52 kV and power frequencies up to and including 60 Hz.

This standard also applies to the operating devices of these switches and to their auxiliary equipment.

NOTES:

1. For a.c. switches and switch disconnectors having rated voltages of 52 kV and above, prior to the issue of Part 2 of this standard, reference should be made to IEC 265-2, in course of preparation. In the meantime the appropriate provisions of IEC 265 apply to such switches and switch disconnectors.
2. The term 'switch' applies to all kinds of switches and switch disconnectors within the scope of this standard. This standard does not require all switches to provide disconnection (isolating) characteristics across open contacts. Where such characteristics are required, in conformity with IEC terminology, it is necessary to specify switch disconnectors.
3. Earthing switches forming an integral part of a switch are covered by AS 1306. If the earthing switch has a rated short-circuit making current the making tests need to be made according to the requirements in this standard.
4. High voltage alternating current contactors, high voltage fuse switch combinations and high voltage motor starters are covered by AS 1864, AS 2024 and AS 2232 respectively.

1.2 APPLICATION. This standard needs to be read in conjunction with AS 2650.

1.3 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 1306	High Voltage Isolators (Disconnectors) and Earthing Switches*
AS 1852	International Electrotechnical Vocabulary 1852(441)—Switchgear and Controlgear
AS 1864	High Voltage Alternating Current Contactors
AS 2006	High Voltage Alternating Current Circuit-breakers*
AS 2024	High Voltage Fuse/Switch Combinations and Fuse/Circuit-breakers Combinations
AS 2232	High Voltage Motor Starters
AS 2650	High Voltage A.C. Switchgear and Controlgear—Common Requirements
IEC 265-2	High-voltage Switches Part 2—High-voltage Switches for Rated Voltages 52 kV and Above.†

1.4 OBJECT. The main object of this standard is to establish uniform requirements for all switches and

switch-disconnectors used in normally continuously fed parts of distribution systems. Such switches, called 'General purpose switches', shall be suitable for the following service applications:

- (a) Carrying their rated normal current continuously.
- (b) Carrying short-circuit currents for a specified time.
- (c) Switching of loaded sections of a distribution network up to their rated normal current.
- (d) Switching of closed loop currents up to their rated normal current.
- (e) Switching of no load current of unloaded distribution transformers up to a transformer rating of 1250 kV.A.
- (f) Switching of unloaded cables or overhead lines.
- (g) Making short-circuit currents.

A further object of this standard is to establish requirements for the following switches:

- (i) Increased operating frequency switches.
- (ii) Limited purpose switches.
- (iii) Motor switches.
- (iv) Single capacitor bank switches.

NOTE: The requirements of switches intended to be used for multiple capacitor banks in parallel are subject to agreement between the purchaser and manufacturer particularly with regard to the peak value and frequency of the inrush current.

- (v) Switches which are operated under earth fault conditions in systems with isolated neutral or in resonant earthed systems.

It is assumed that opening and closing operations are performed according to the manufacturer's instructions. A making operation may immediately follow a breaking operation. However it is strongly recommended that a breaking operation should not immediately follow a making operation since the current to be broken may then exceed the rated breaking current of the switch.

2. SERVICE CONDITIONS.

Clause 2 of AS 2650 applies.

3. DEFINITIONS

3.1 GENERAL. For the purposes of this standard the definitions in AS 1852(441) and in Clause 3 of AS 2650 apply. Additional terms used in this standard are defined below.

* In course of revision.

† In course of preparation.