

AS 2067—1984

Australian Standard[®]

**Switchgear assemblies and
ancillary equipment for alternating
voltages above 1 kV**

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SWITCHGEAR ASSEMBLIES, ELECTRICAL AND ANCILLARY
EQUIPMENT, (A.C. Voltages above 1 kV)]

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The following interests are represented on Committee EL/7:

Australian-British Trade Association
Australian Electrical Manufacturers Association
Electricity Supply Association of Australia
Institution of Engineers Australia
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PREFACE

This edition of this standard was prepared by the Association's Committee on Power Switchgear as a revision of AS 2067—1980. Revision of AS 2067—1980 was necessary in order to harmonize its requirements with those of AS 2650—1983, High Voltage A.C. Switchgear and Controlgear—Common Requirements, and Clauses 1 to 5 of this standard correspond to Clauses 1 to 5 of that standard.

Reference has been made to AS 1852, Chapter (441) for a number of terms to make their definitions conform to those in International Electrotechnical Vocabulary.

The changes in this edition are as follows:

- (a) Clause 5.1.12 requires voltage transformers, as appropriate, to comply with AS 1243 and the primary connections thereto are required to be capable of carrying the maximum fault current for the operating time of the protection.
- (b) Clauses 5.1.14 and 7.5 require exposed terminals of control wiring to be shrouded where nominal voltages to earth exceed 32 V a.c. or 115 V d.c.
- (c) Table 9.1 has been amended to delete rated voltages and impulse withstand voltages not specified in AS 2650 and some of the clearances specified in Table 10.1 have been deleted to line up with amended Table 9.1.
- (d) Clause 10.4 has been amended to cover both fences and solid walls for restriction of entry to outdoor installations.
- (e) The calculation of conductor size in the design of the earth electrode system, see Appendix C, has been amended to provide for the determination of cross-sectional area on the basis of fault current and its duration, conductor material and temperature rise, and a decrement factor taking into consideration the system $\frac{X}{R}$ is used to determine the symmetrical fault current level used in the calculation.
- (f) Irregularity factor K_i , in the formula for calculation of allowable touch voltage in earthing systems in Appendix C has been amended.
- (g) The circuit and wire identification code lettering and the typical application shown in Appendix D have been amended to conform with AS 1103, Part 6.
- (h) Appendix F gives revised recommendations regarding creepage distances.
- (j) Many minor amendments have been made throughout this standard to clarify the meaning of clauses in AS 2067—1980.

The referenced and relevant documents as shown in the Annex have been updated and references inserted covering the determination of comparative tracking indices, installation and maintenance of batteries in buildings and fire protection and recommendations for creepage distances.

This standard coordinates the requirements for indoor and outdoor switchgear assemblies for alternating voltages above 1 kV, 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.

In particular, this standard specifies requirements in regard to electrical clearances, the safety of personnel during normal operation and maintenance of the equipment, the earthing of main circuits, substations and fences. Basic requirements are specified for busbars, marking and identification of conductors and terminals, colours of indicator lights and electrical and compressed air auxiliary systems.

The appendices include information to be given with enquiry and order, recommendations for the jointing of busbars and connections, recommendations for the design of earthing systems, a typical system for functional identification of small wiring and recommendations for the design of compressed-air systems.

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CONTENTS

	<i>Page</i>
1 SCOPE AND GENERAL	
1.1 Scope	5
1.2 Application	5
1.3 Referenced and Relevant Documents	5
2 SERVICE CONDITIONS	5
3 DEFINITIONS	
3.1 Application	5
3.2 General Terms	5
3.3 Types of Switchgear	5
3.4 Enclosures	5
3.5 Types of Control Panels	5
3.6 Busbars	5
3.7 Connections	6
3.8 Control and Ancillary Equipment	6
3.9 Electrical Characteristics	6
3.10 Clearances	6
4 RATING OF EQUIPMENT, BUSBARS AND CONNECTIONS	7
5 DESIGN AND CONSTRUCTION	
5.1 General Requirements	7
5.2 Requirements for Enclosed-type Switchgear	9
5.3 Requirements for Open-type Switchgear	10
5.4 Busbars and Connections	10
5.5 Safety Earthing of Main Electrical Circuits	10
5.6 Station Earthing System	11
6 MARKING AND IDENTIFICATION OF INSULATED AND BARE CONDUCTORS AND TERMINALS	
6.1 General	11
6.2 Correlation Between Alphanumeric Notation, Symbols and Colours	11
6.3 Alphanumeric Notation	11
6.4 Identification of Conductors by Colours	11
6.5 Marking of Control Wiring	12
7 CONTROL, INDICATION AND RELAY EQUIPMENT	
7.1 Control Devices	12
7.2 Indicator Lights	12
7.3 Push-button Switches	13
7.4 Identification of Fuses and Links	14
7.5 Shrouding of Live Terminals	14
7.6 Mounting of Instruments, Meters and Relays	14
7.7 Labelling of Control, Indication and Relay Equipment	14
8 AUXILIARY SYSTEMS, ELECTRICAL AND AIR	
8.1 Electrical Systems	15
8.2 Compressed-air-Systems	16
9 ELECTRICAL CLEARANCES FOR SWITCHGEAR ASSEMBLIES	
9.1 Clearances in Air	17
9.2 Clearances for Neutral-earthing Switchgear	18
9.3 Effect of Altitude on Clearances in Air	18

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