AS 1102 Parts 101 to 110 supersede AS 1102.1—1985, AS 1102.2—1981, AS 1102.3—1983, AS 1102.4—1983, AS 1102.5—1983, AS 1102.6—1982, AS 1102.7—1982, AS 1102.10—1985, AS 1102.11—1985, AS 1102.13—1979 and AS 1102.14—1979.

AS 1102.6—1982
UDC 003.62:621.3

Australian Standard 1102, Part 6—1982

GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY

ROTATING ELECTRICAL MACHINES

STANDARDS ASSOCIATION OF AUSTRALIA
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Confederation of Australian Industry

Department of Aviation

Department of Defence

Department of Defence Support

Departments of Technical and Further Education, N.S.W. and Victoria

Department of Transport and Construction

Electricity Supply Association of Australia

Institute of Draftsmen, Australia

Institution of Radio and Electronics Engineers, Australia

Melbourne and Metropolitan Board of Works

Queensland Chamber of Mines

Railways of Australia Committee

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AUSTRALIAN STANDARD

GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY

ROTATING ELECTRICAL MACHINES

AS 1102, Part 6—1982

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PREFACE

This edition of this standard was prepared by the Association's Committee on Symbols, Units and Quantities for Electrotechnology under the authority of both the Telecommunications and Electronics, and the Electrical Standards Boards, to supersede the 1975 edition.

This edition is technically identical with the 1975 edition as amended by Amendment No 1 of September 1978, except that it includes other editorial and technical changes such as the renumbering of symbols in accordance with the current IEC method, the updating of cross-references to other Australian standards, and the deletion of graphical symbols for terminals which are depicted in AS 1102, Part 2. Also some symbols have been redrawn to eliminate inconsistencies, and improve their presentation, and Section 1 has been rewritten to align with current practice.

In its terminology, format and general treatment of the subject this standard is consistent with the recommendations of Publication 117-2 of the International Electrotechnical Commission (IEC). Attention has also been paid to BS 3939, Section 7. Acknowledgement is made of the assistance received from these sources.

This standard is one part in a series forming a comprehensive standard on graphical symbols for use generally in the field of electrotechnology. The purpose of this part is to specify graphical symbols for rotating electrical machines such as motors and generators of various types together with associated equipment.

Examples of the use of the symbols are given in order both to establish the method to be adopted for using the symbols in diagrams and to combine them with symbols specified in other parts of the standard so as to express more complex ideas.

For a fuller understanding of the methods adopted in this standard, reference will also be required to the following Australian standards:

AS 1100 Drawing Practice
Part 6—Letters, Numerals and Symbols

AS 1102 Graphical Symbols for Electrotechnology
Part 1—General, Qualifying and Supplementary Symbols
Part 2—Conductors and Connecting Devices

AS 1103 Diagrams, Charts and Tables for Electrotechnology
Part 1—Definitions and Classifications
Part 2—Item Designation
Part 3—Basic Principles for the Presentation of Elements of Electrical Diagrams
Part 4—Guiding Principles for the Preparation of Circuit Diagrams
Part 5—Preparation of Interconnection Diagrams and Tables

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY

PART 6—ROTATING ELECTRICAL MACHINES

SECTION 1. SPECIFICATION

1.1 SCOPE. This standard defines graphical symbols for rotating electrical machines for use in electrical and electronic diagrams.

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

AS 1100 Drawing Practice

AS 1103 Diagrams, Charts and Tables for Electrotechnology
- Part 1—Definitions and Classifications
- Part 3—Basic Principles for the Presentation of Elements of Electrical Diagrams

1.3 GENERAL.

1.3.1 Relationship with IEC Symbols. Symbols are identical with those internationally agreed within the IEC except where established usage in Australia makes unqualified acceptance of the IEC symbol difficult. In such cases an alternative symbol is generally shown, with the object of adopting the IEC proposal as soon as practicable. The 'objective symbol' may be marked with an asterisk (which is not part of the symbol) or be marked 'preferred'. However,only one form of any symbol shall be used on a single diagram or series of drawings.

1.3.2 Size of Symbols. Precise dimensions and proportions of graphical symbols are difficult to specify. The symbols of this standard have been drawn to a size convenient for publication and comprehension. The sizes of symbols relative to one another may be changed to suit the circumstances of a given drawing or application.

The relative sizes of the symbols should be preserved except where it is necessary to enlarge a symbol to give it prominence in a diagram or to provide adequate space within or around it to show symbols for associated components, or for coding.

At all times however, the size and relative proportions of the symbols should be maintained such that each symbol shall be unique and immediately recognizable.

1.3.3 Drawing Practice. In general the drawing of graphical symbols for use on wiring or circuit diagrams should comply with the requirements of AS 1100 (in particular with Part 6) and AS 1103, Part 3.

1.3.4 Qualifying and Supplementary Symbols. These symbols are added to component symbols where necessary in order to define more closely the item concerned. For example, the symbols for direct or alternating current added to the motor symbol 6-02-02, qualifies the type of motor. Refer to Symbols 6-03-02 and 6-04-02.

Supplementary symbols define the qualified component even more closely; for example, the motor symbol can be further qualified by adding a symbol for a magnet as in Symbol 6-03-03.

Qualifying symbols may not be employed independently but it should be noted that component symbols may be used as qualifying symbols where appropriate.

1.3.5 New Symbols. If a symbol for a particular type of component is not shown as an example in this standard, it should be possible to produce it from the basic and qualifying symbols. New basic symbols for specialized components should be derived and not created.

1.3.6 Symbol Orientation. Orientation of a symbol, including mirror image reversal, does not change the meaning of a symbol except where otherwise indicated.

1.3.7 Coding and Supplementary Information. In addition to qualifying the basic component symbols as in Clause 1.3.4, usage of a particular item may be indicated by placing an appropriate letter symbol and/or numbers on the graphical symbol or adjacent to it. For example see Symbol 6-03-08.

Supplementary information, the method of connecting windings, letters M, G or C and numerical data are given only if this is necessary; numerical data are shown only on one symbol for each class of machines.

Only one unit for frequency is to be used on the one diagram; hertz (Hz) is preferred.

1.3.8 Terminology. The terms and definitions employed in this standard are given in AS 1103, Part 1.