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Australian Standard 1102, Part 3—1983

GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY

RESISTORS, CAPACITORS AND INDUCTORS

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

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The following interests were represented on the committee responsible for the preparation of this standard:

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

RESISTORS, CAPACITORS AND INDUCTORS

AS 1102, Part 3—1983

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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 1973 edition.

This edition is technically identical with the 1973 edition except that it incorporates Amendment No 1 of September 1978 and Addendum No 1 of September 1978, and includes other editorial and technical changes such as the updating of cross-references to other Australian standards, the renumbering of symbols in accordance with the current IEC method, an alternative symbol for a reactor, and symbols for impedance, and transformer type regulators. Also, 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 various parts of Publication 117 of the International Electrotechnical Commission (IEC). Attention has also been paid to BS 3939: Sections 4, 5 and 6. 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 resistors, capacitors and inductors.

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.

Some qualifying symbols and letter symbols necessary to identify a particular device are included in the standard, but for a full understanding of the methods adopted, reference will also be required to the following Australian standards:

AS 1046	Letter Symbols for Use in Electrotechnology Part 1—General Part 2—Telecommunications and Electronics
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 Part 6—Rotating Electrical Machines
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 Part 4—Guiding Principles for the Presentation of Circuit Diagrams

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY

PART 3—RESISTORS, CAPACITORS AND INDUCTORS

SECTION 1. SPECIFICATION

1.1 SCOPE. This standard defines graphical symbols for resistors, capacitors and inductors for use in electrotechnology. Examples of the use of the symbols are given in order to establish the method to be adopted in constructing further symbols.

This standard may require reference to AS 1102, Part 1, and other Australian standards for a full understanding of the methods adopted (see Preface).

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

AS 1100	Drawing Practice
AS 1102	Graphical Symbols for Electrotechnology Part 5—Semiconductor Devices
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
AS 2374	Power Transformers Part 4—Tappings and Connections

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 may be shown, with the object of adopting the IEC proposal as as soon as practicable. However, only one form of any symbol shall be used on a single diagram or series of drawings. A number of non-IEC symbols have been added, which represent Australian practice; in each of these cases an asterisk has been added to the symbol number as a prefix.

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 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 the 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 symbol for variability added to the resistor symbol indicates a variable resistor.

Supplementary symbols define the qualified component even more closely; for example, the variability of the resistor can be further qualified with a supplementary symbol indicating continuous variability or stepped variability.

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.

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