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GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY

Part 1—GENERAL, QUALIFYING AND SUPPLEMENTARY SYMBOLS

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

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The following interests are represented on Committee TE/13:

Australian Electrical and Electronic Manufacturers Association Ltd

Confederation of Australian Industry

Department of Aviation

Department of Defence

Department of Housing and Construction

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

Electricity Supply Association of Australia

Institute of Draftsmen, Australia

Institution of Radio and Electronics Engineers, Australia

Melbourne & Metropolitan Board of Works

Queensland Chamber of Mines

Railways of Australia Committee

The Technical Press

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GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY

Part 1 GENERAL, QUALIFYING AND SUPPLEMENTARY SYMBOLS

AS 1102.1—1985

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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 AS 1102.1—1981.

This edition is technically identical with the 1981 edition except that it includes editorial and technical changes such as the renumbering of some symbols, the updating of cross-references to other Australian standards and the inclusion of a new symbol for sliding movement. In addition, 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 IEC 117 of the International Electrotechnical Commission. Attention has also been paid to BS 3939: Sections 1 and 2. Acknowledgement is made of the assistance received from these sources.

The AS 1102 series of standards provides for a comprehensive treatment of graphical symbols for use generally in the field of electrotechnology. The purpose of this standard, which is Part 1 in the series, is to specify graphical symbols for basic electrical and electronic components, together with qualifying and supplementary symbols from which more complex symbols may be constructed.

The principles governing the combining of basic and qualifying or supplementary symbols are demonstrated in the examples given in other Parts of the standard. The examples given are not exhaustive but it should be possible to construct any symbol required from the symbols given in specific Parts when combined with qualifying or supplementary symbols given in this Part.

For a fuller understanding of the methods adopted in this standard, 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 1102 Graphical Symbols for Electrotechnology
Part 2—Conductors and Connecting Devices
Part 11—Switching and Protective Devices

AS 1103 Diagrams, Charts and Tables for Electrotechnology
Part 2—Item Designation
Part 4—Guiding Principles for the Preparation of Circuit Diagrams

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY

PART 1—GENERAL QUALIFYING AND SUPPLEMENTARY SYMBOLS

SECTION 1. SPECIFICATION

1.1 SCOPE. This standard defines graphical symbols for basic electrical and electronic components for use in electrotechnology, together with qualifying and supplementary symbols. Examples of the use of the qualifying symbols are given in order to establish the method to be adopted for constructing symbols.

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

AS 1100 Technical Drawing
Part 101—General Principles

AS 1102 Graphical Symbols for Electrotechnology
Part 5—Semiconductor Devices
Part 7—Measuring Instruments
Part 10—Signal Transmission Symbols

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 International Electrotechnical Commission (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). 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 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, Part 101 and AS 1103, Part 3.

1.3.4 Qualifying and supplementary. 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.