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Australian Standard 1102, Part 8—1983

GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY

LOCATION SYMBOLS—POWER AND COMMUNICATIONS INSTALLATIONS FOR BUILDINGS AND SITES

STANDARDS ASSOCIATION OF AUSTRALIA
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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

The Technical Press

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AUSTRALIAN STANDARD

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AS 1102, Part 8—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 1974 edition.

This edition of the standard is technically identical with the 1974 edition as amended by Amendment No 1 of September 1978, and Amendment No 2 of February 1980, 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 the cross-references to other Australian standards, a new symbol for a closed-circuit television camera, and a revised symbol for a cloud base searchlight. Also, this standard has been retitled, and Section 1 has been rewritten to align with current practice.

In its terminology, format and treatment of the subject, this standard is, in general, consistent with the recommendations of Publications 117-5 and 117-8 of the International Electrotechnical Commission (IEC). Attention has been paid to relevant sections of BS 3939. Acknowledgement is made of the assistance received from these sources.

Some divergence from IEC recommendations has been permitted as a concession to established Australian practice in the case of lighting points and luminaires. The recommended use of the general symbol for power outlets or plug-sockets has also been modified in accordance with the normal Australian requirement that a general purpose outlet (GPO) is understood to be switched and earthed. A section on airport lighting has been added.

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 electrical and electronic equipment or appliances, for use in the preparation of location plans and diagrams. In this regard this part differs completely from other parts of the standard, as the symbols are not intended for use in circuit or wiring diagrams, although wherever possible the same symbol has been used. The other published parts of this standard, which specify graphical symbols for use in circuit or wiring diagrams, are as follows:

Part 1—General, Qualifying and Supplementary Symbols
Part 2—Conductors and Connecting Devices
Part 3—Resistors, Capacitors and Inductors
Part 4—Electron Tubes and Rectifiers
Part 5—Semiconductor Devices
Part 6—Rotating Electrical Machines
Part 7—Measuring Instruments
Part 9—Logic Symbols
Part 10—Signal Transmission Symbols
Part 11—Switching and Protective Devices
Part 12—Electric Traction
Part 13—Microwave Technology
Part 14—Telephony, Telegraphy and Transducers
Part 15—Analogue Elements

Examples of the use of the symbols have been given in order to establish the method to be adopted for using the symbols on location plans but they are not exhaustive. Methods of using the symbols will vary with the need. It is considered that this should not cause problems providing the symbol is not changed. Wherever possible any further symbols required should be drawn from the appropriate part of this standard. The urge to create new symbols should be resisted.

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STANDARDS ASSOCIATION OF AUSTRALIA

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for
GRAPHICAL SYMBOLS FOR ELECTROTECHNOLOGY

PART 8—LOCATION SYMBOLS—POWER AND COMMUNICATIONS INSTALLATIONS FOR BUILDINGS AND SITES

SECTION 1. SPECIFICATION

1.1 SCOPE. This standard defines graphical symbols for the preparation of location plans and diagrams for—

(a) electrical and communications services and systems;

(b) generating stations and substations, and lines for transmission and distribution.

NOTE: The symbols depicted in this standard are not intended for use in wiring or circuit diagrams.

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

AS 1100 Drawing Practice
Part 5—Lines
Part 6—Letters, Numerals and Symbols
Part 13—Architectural Drawing

AS 1103 Diagrams, Charts and Tables for Electrotechnology
Part 1—Definitions and Classifications

AS 1670 Rules for Automatic Fire Alarm Installations

Reference should be made to the following standard for letter symbols for use in electrotechnology:

AS 1046 Letter Symbols for Use in Electrotechnology
Part 1—General
Part 2—Telecommunications and Electronics

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 by marking it '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 location plans or diagrams should comply with the requirements of AS 1100, in particular with Part 5 and Part 6.

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 any component symbol indicates a variable component (see Symbol 8-02-22).

Supplementary symbols define the qualified component even more closely; for example, the variability of a component may 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 except where otherwise indicated.

1.3.7 Coding. 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 8-01-15.

Where it is necessary to include other services, e.g. fuel, gas, sewerage, on the same diagram as electrical services, the various service lines shall be appropriately coded and the symbols identified on the drawing. Reference should be made to the appropriate standard, e.g. AS 1100, Part 13, for the appropriate symbol or abbreviation.

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