Australian Standard®

Item designation in electrotechnology

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PREFACE

This Standard was prepared by Standards Australia'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 1103.2—1982, *Diagrams charts and tables for electrotechnology, Part 2: Item designation.*

This Standard is a comprehensive revision of the former Standard (AS 1103.2—1982), which was one part of the AS 1103 series of Standards on diagrams, charts and tables for electrotechnology.

Since the revised system of item designation specified in this Standard is not only used to correlate information in different documents (such as diagrams, parts lists, circuit descriptions and instructions) but may also be displayed on or near the item itself in the equipment, this Standard has been removed from the AS 1103 series and is now a 'stand-alone' Standard.

It should be noted that this Standard is technically equivalent to IEC 750 (1983), *Item designation in electrotechnology.* It follows the same principles including the removal of the publication from IEC 113 series (on which the AS 1103 series is based) to new IEC number (i.e. IEC 750). However, a major deviation from IEC 750 is the provision of a comprehensive alphabetical list of items and their letter codes given in Table 2, which has been included as a quick-reference guide.

This Standard is based on the concept that design and engineering as well as operation and maintenance of an electrotechnical system requires a clear and simple method for designating each item. To this end, considerable effort has been made to make the Standard easy to comprehend and apply. Examples are given to demonstrate rules and different ways of applying the system.

The purpose of this Standard is to provide guidance for the formulation and application of discrete item designation for parts used in electrotechnology. The designation correlates the item in different diagrams, parts lists, circuit descriptions, instructions and in the equipment, and part of it may also be shown on or near the item in the equipment.

Attention is drawn to the fact that the AS 1103 series of Standards is complementary to the AS 1100 series (*Drawing practice*) and the AS 1102 series (*Graphical symbols for electrotechnical documentation*). For relevant information on matters specific to drawing practice but which are not covered in the AS 1103 series, reference should be made to the AS 1100 series. In addition, reference may also be required to AS 1046.1 and AS 1046.2, *Letter symbols for use in electrotechnology, Part 1: General*, and *Part 2: Telecommunications and electronics.*

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Item designation in electrotechnology

1 SCOPE. This Standard gives guidance for the formulation and application of discrete item designation for parts used in electrotechnology.

2 REFERENCED DOCUMENT. The following document is referred to in this Standard:

AS
1103 Diagrams, charts and tables for electrotechnology
1103.1 Part 1: Definitions and classifications

3 GENERAL. The designation correlates the item in different diagrams, parts lists, circuit descriptions, instructions and in the equipment. The designation or part of it may also be shown on or near the item in the equipment.

4 DEFINITIONS. For the purpose of this Standard, the definitions given in AS 1103.1 and those below apply.

4.1 Basic part—one piece (or several pieces joined together) which cannot normally be disassembled without destroying its function.

Examples: Integrated circuit, resistor.

4.2 Subassembly—two or more basic parts which form a portion of an assembly, replaceable as a whole, but having a part or parts which are individually replaceable.

Examples: Overcurrent protective device, filter network unit, terminal board.

4.3 Assembly—a number of basic parts or subassemblies, or any combination thereof, joined together to perform a specific function.

Examples: Electrical generator, audio frequency amplifier, power supply unit, switchgear assembly.

4.4 Item—a basic part, component, equipment, functional unit, etc, which usually is represented by a graphical symbol on a diagram.

Examples: Resistors, relays, generators, amplifiers, power supply units and switchgear assemblies may all be described as items for the purpose of designation.

4.5 Kind of item—sort, variety, class or group of items regardless of their function in a circuit.

Examples: Every type of resistor is regarded as being the same kind of item.

Assemblies may be classified according to their use in a given circuit.

Example: An oscillator as an assembly can be coded as either A, or by its function as G.

4.6 Location of item—the physical position of an item in an assembly, building, etc.

4.7 Item designation—a distinctive code, which serves to identify an item in a diagram, list, chart and on the equipment.

4.8 Higher-level designation—an item designation for any major part of a plant or equipment.

Examples: A feedwater system in a thermal power station or a pump equipment consisting of pump, motor, starter and control equipment.

4.9 Terminal designation—designation applied to the conducting parts of an apparatus which are provided for electrical connection to external circuits.

4.10 Designation block—part of a complete item designation with related information. (See Clause 5.)

4.11 Prefix sign—the sign, used to identify the various designation blocks, i.e. equals (=), plus (+), minus (–) and colon (:).

4.12 Full stop—the sign used to distinguish between similar parts of an item which are shown separately on a drawing.

4.13 Solidus—the sign used as a prefix to the functional designation.

5 DESIGNATION BLOCKS.

5.1 Types. The following types of designation block are dealt with in this Standard:

(a) Block 1: Higher-level designation.
(b) Block 2: Location of item.
(c) Block 3: Identification of item.
(d) Block 4: Terminal designation.

5.2 Prefix signs. The following prefix signs are used to distinguish the various designation blocks:

(a)	Block 1 = higher-level	Example =T2
(b)	Block 2 + location	Example +D126
(c)	Block 3 – item	Example –K5
(d)	Block 4 : terminal	Example :13

If prefix signs other than those shown above are used, they shall be explained on the drawing where they are shown.

The use of prefix signs enables the various designation blocks to be combined in any suitable manner. (See also Clause 10.)

5.3 Characters. Each designation block shall consist of letters of the Latin alphabet or Arabic figures or both. To avoid misunderstandings upper case and lower case letters should have the same meaning (Clause 11 gives an exception for terminal marking). Upper case letters are preferred.

6 ARRANGEMENT OF ITEM DESIGNATIONS. Item designations are based on successive subdivision of a plant or equipment. In a composite item designation, for example =S5=P2–A1–H1, each item, designated by a designation group, always is a part of the item designated by the preceding group. This principle is illustrated in Figure 1, based on the items in Figure 11.