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Australian Standard 1103, Part 5—1978

DIAGRAMS, CHARTS AND TABLES FOR ELECTROTECHNOLOGY

PREPARATION OF INTERCONNECTION DIAGRAMS AND TABLES

STANDARDS ASSOCIATION OF AUSTRALIA
Incorporated by Royal Charter

THE FOLLOWING SCIENTIFIC, INDUSTRIAL AND GOVERNMENTAL ORGANIZATIONS and departments were officially represented on the committee entrusted with the preparation of this standard:

Australian Electrical Manufacturers Association

Australian Institute of Refrigeration, Air Conditioning and Heating Inc.

Confederation of Australian Industry

Defence Standardization Committee

Department of Construction

Department of Defence

Department of Productivity

Department of Transport

Electricity Supply Association of Australia

Institute of Draftsmen, Australia

Institution of Engineers, 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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To keep abreast of progress in industry, Australian standards are regularly reviewed. Suggestions for improvements to published standards, addressed to the head office of the Association, are welcomed.

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AUSTRALIAN STANDARD

DIAGRAMS, CHARTS AND TABLES FOR ELECTROTECHNOLOGY

PREPARATION OF INTERCONNECTION DIAGRAMS AND TABLES

AS 1103, Part 5—1978

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PREFACE

This standard is the fifth Part of the series on diagrams, charts and tables being prepared by the Association's Committee on Symbols, Units and Quantities for Electrotechnology under the authority of both the Telecommunications and Electronics Standards Board and the Electrical Standards Board.

The purpose of this Part is to establish the principles to be followed in the preparation of interconnection diagrams and tables as an extension of the general principles already stated in Parts 3 and 4 of the standard. A number of examples are given which demonstrate the style of diagram recommended for adoption for the specific purpose of providing information on the external connections between items of equipment.

In its terminology, format and general treatment of the subject, this Part is consistent with the recommendations of IEC 113-5:1975 of the International Electrotechnical Commission. Some diagrams have been modified to bring them more into line with Australian practice as reflected in the Parts of AS 1103 already published. Acknowledgement is made of the assistance received from this source.

The series of which this standard forms part is complementary to AS 1100, Drawing Practice, and AS 1102, Graphical Symbols for Electrotechnology. Reference should be made to AS 1100 for relevant information on matters specific to drawing practice which are not covered in this Part or earlier Parts of AS 1103.

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 Physical Quantities for Use in Electrotechnology and Abbreviations and Symbols for Units for Such Quantities Part 1—General Part 2—Telecommunications and Electronics
AS 1100	Drawing Practice
AS 1102	Graphical Symbols for Electrotechnology
AS 1103	Diagrams, Charts and Tables for Electrotechnology 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

Reference may also be necessary to AS 2067, Switchgear Assemblies and Ancillary Equipment for A.C. Voltages above 1 kV.

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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard
for
DIAGRAMS, CHARTS AND TABLES FOR ELECTROTECHNOLOGY

Part 5. PREPARATION OF INTERCONNECTION DIAGRAMS AND TABLES

1 SCOPE. This Part of the standard specifies guiding principles to assist in the preparation of interconnection diagrams and tables providing information on the external electrical connections between items of equipment.

2 PURPOSE OF AN INTERCONNECTION DIAGRAM. Interconnection diagrams and tables provide information on the external electrical connections between units of equipment and may be used as an aid in the preparation of the wiring harnesses and for maintenance purposes.

Information on the internal connections in units is not normally included, but if it is, references to the appropriate circuit or wiring diagrams shall be provided.

The diagrams may employ single-line or multi-line representation and may be combined with or replaced by tables provided that clarity is maintained. Tables are recommended where the number of interconnections is large.

3 ITEM DESIGNATION. In this standard the figures that show examples of interconnection diagrams use item designations for plugs, sockets, cables and conductors in accordance with AS 1103, Part 2—Item Designation, the letter X being used for plug and socket and the letter W for conductors and cables.

However, in accordance with that standard, other designations may be used, provided that they are explained. In diagrams showing only cables, in compliance with AS 1103, Part 2, a simple numerical designation may be used to identify each cable.

Illustrations of both methods are given.

4 INTERCONNECTION DIAGRAMS.

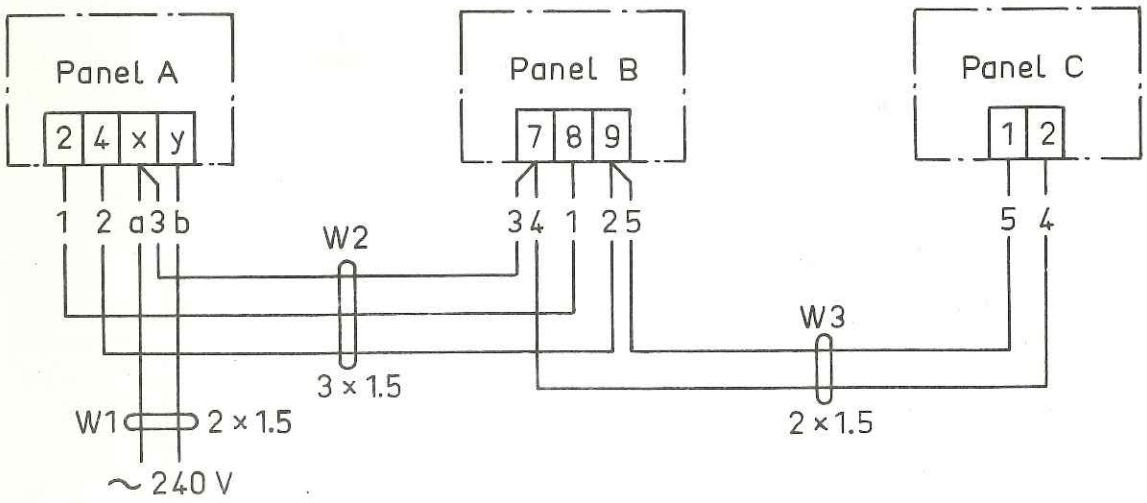
4.1 Layout. Interconnection diagrams employ straight lines and simple outlines, i.e. squares, circles or rectangles, to depict equipment units. The connections between the units are symbolized by lines which may represent individual wires or complete cables. The diagrams should be arranged so that the lines can be drawn in a simple and logical manner between the various points of termination.

Views should be shown as though all connections were in one plane. Where practicable, the sequence and arrangement of the equipment symbols on the diagram should depict the physical arrangement of the installation. A location diagram should complete interconnection information if the relative location of such items as terminals or connectors is not clear.

Fig. 1 is an example of a simple interconnection diagram.

4.2 Identification.

4.2.1 *Units of equipment.* The outline representing each item should be suitably identified, e.g. by a functional title or item designation, as necessary.



NOTE: The cable symbol is identified by an item designation symbol, e.g. W2, and a notation indicating the number of conductors and their cross-sectional area in square millimetres, e.g. 3 × 1.5.

Fig. 1. SIMPLE INTERCONNECTION DIAGRAM