

Australian Standard™

**Power transformers**

**Part 1: General (IEC 60076-1, Ed. 2.1  
(2000) MOD)**



This Australian Standard was prepared by Committee EL-008, Power Transformers. It was approved on behalf of the Council of Standards Australia on 11 November 2005.  
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The following are represented on Committee EL-008:

Australasian Railway Association  
Australian Chamber of Commerce and Industry  
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Australian Greenhouse Office, Department of Environment and Heritage  
Australian Institute of Petroleum  
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# Australian Standard™

## Power transformers

### Part 1: General (IEC 60076-1, Ed. 2.1 (2000) MOD)

Originated as part of AS C61—1931.  
Previous edition AS 2374.1—1997.  
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## PREFACE

This Standard was prepared by the Standards Australia Committee EL-008, Power Transformers to supersede AS 2374.1—1997 on publication.

The objective of this Standard is to provide manufacturers, suppliers, test laboratories, purchasers and users of power transformers with general requirements for most three-phase and single-phase transformers. The exceptions are some small and special purpose transformers.

This Standard is an adoption with national modifications, and has been reproduced from IEC 60076-1, Ed. 2.1 (2000), *Power transformers – Part 1: General* and Corrigendum 1 (June 1997) and Amendment 1 (1999), and has been varied as indicated to take account of Australian/New Zealand conditions.

Variations to IEC 60076-1, Ed. 2.1 (2000) are indicated at the appropriate places throughout this standard. Strikethrough (~~example~~) identifies IEC text, tables and figures which, for the purposes of this Australian Standard, are deleted. Where text, tables or figures are added, each is set in its proper place and identified by shading (example). Added figures are not themselves shaded, but are identified by a shaded border. Two additional annexes, ZA and ZB have been added for Australian conditions. Some editorial errors in the original IEC text have been corrected; in particular the equations in Clause 3.4.3, notes 2 and 3 have been corrected.

This Standard is Part 1 of the AS 60076 series which is to replace the AS 2374 series. This series will consist of adoptions of the IEC 60076 series of Standards on power transformers.

This Standard differs from AS 2374.1—1997 in the following ways:

- (a) A reduction in the number of Australian variations to IEC 60076-1.
- (b) The Australian variations have been included in the body of the Standard. The variations are also listed in Annex ZZ.
- (c) The Standard has been re-styled.

As this Standard is reproduced from an International Standard, the following applies:

- (i) Its number does not appear on each page of text and its identity is shown only on the cover and title page.
- (ii) In the source text 'IEC 60076-1' should read 'AS 60076.1'.
- (iii) A full point should be substituted for a comma when referring to a decimal marker.

The terms 'normative' and 'informative' are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

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## STANDARDS AUSTRALIA

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**Australian Standard****Power transformers****Part 1: General (IEC 60076-1, Ed. 2.1 (2000) MOD)**

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Any table, figure or text of the international standard that is struck through is not part of this standard. Any Australian/New Zealand table, figure or text that is added is part of this standard and is identified by shading.

**1 Scope and service conditions****1.1 Scope**

This part of International Standard IEC 60076 applies to three-phase and single-phase power transformers (including auto-transformers) with the exception of certain categories of small and special transformers such as:

- single-phase transformers with rated power less than 1 kVA and three-phase transformers less than 5 kVA;
- instrument transformers;
- transformers for static convertors;
- traction transformers mounted on rolling stock;
- starting transformers;
- testing transformers;
- welding transformers.

When IEC standards do not exist for such categories of transformers, this part of IEC 60076 may still be applicable either as a whole or in part.

For those categories of power transformers and reactors which have their own IEC standards, this part is applicable only to the extent in which it is specifically called up by cross-reference in the other standard.\*

At several places in this part it is specified or recommended that an 'agreement' shall be reached concerning alternative or additional technical solutions or procedures. Such agreement is to be made between the manufacturer and the purchaser. The matters should preferably be raised at an early stage and the agreements included in the contract specification.

**1.2 Service conditions****1.2.1 Normal service conditions**

This part of IEC 60076 gives detailed requirements for transformers for use under the following conditions:

- a) Altitude  
A height above sea-level not exceeding 1 000 m (3 300 ft).

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\* Such standards exist for dry-type transformers (IEC 60076-11), for reactors in general (IEC 60289), for traction transformers and reactors (IEC 60310), and are under preparation for static convertor transformers.



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